

In[382]:= Column[rRsList]

$$\begin{aligned}
|X_1 X_2|^2 &: \frac{1}{9} (5 r^2 - 16 r R + s^2) \\
|X_1 X_3|^2 &: R (-2 r + R) \\
|X_1 X_4|^2 &: 3 r^2 + 4 r R + 4 R^2 - s^2 \\
|X_1 X_5|^2 &: \frac{1}{4} (-2 r + R)^2 \\
|X_1 X_6|^2 &: -\frac{4 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^2 + 4 r R - s^2)^2} \\
|X_1 X_7|^2 &: \frac{r^2 (r^2 + 8 r R + 16 R^2 - 3 s^2)}{(r + 4 R)^2} \\
|X_1 X_8|^2 &: 5 r^2 - 16 r R + s^2 \\
|X_1 X_9|^2 &: -\frac{4 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r + 4 R)^2} \\
|X_1 X_{10}|^2 &: \frac{1}{4} (5 r^2 - 16 r R + s^2) \\
|X_1 X_{11}|^2 &: r^2 \\
|X_1 X_{12}|^2 &: \frac{r^2 (-2 r + R)^2}{(2 r + R)^2} \\
|X_1 X_{20}|^2 &: r^2 + 8 r R + 16 R^2 - 3 s^2 \\
|X_1 X_{21}|^2 &: \frac{R (-6 r^3 - 19 r^2 R + R s^2 + 2 r (-8 R^2 + s^2))}{(2 r + 3 R)^2} \\
|X_1 X_{31}|^2 &: \frac{4 r^2 R (-6 r^3 - 19 r^2 R + R s^2 + 2 r (-8 R^2 + s^2))}{(-3 r^2 - 6 r R + s^2)^2} \\
|X_1 X_{32}|^2 &: -\frac{4 r^2 R (r^7 + 16 r^6 R - R s^6 + r^5 (96 R^2 - 9 s^2) + r^4 (256 R^3 - 81 R s^2) + r^3 (256 R^4 - 216 R^2 s^2 + 19 s^4) + r^2 (-144 R^3 s^2 + 46 R s^4) + 3 r (8 R^2 s^4 - s^6))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2} \\
|X_1 X_{35}|^2 &: \frac{4 r^2 R (-2 r + R)}{(2 r + R)^2} \\
|X_1 X_{36}|^2 &: -\frac{4 r^2 R}{2 r - R} \\
|X_1 X_{37}|^2 &: -\frac{4 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^2 + 4 r R + s^2)^2} \\
|X_1 X_{38}|^2 &: \frac{4 r^2 R (-6 r^3 - 19 r^2 R + R s^2 + 2 r (-8 R^2 + s^2))}{(r^2 - 2 r R + s^2)^2} \\
|X_1 X_{39}|^2 &: -\frac{4 r^2 R (r^7 + 16 r^6 R - R s^6 - 18 r^2 R s^2 (8 R^2 + s^2) + 3 r^5 (32 R^2 + s^2) + r^4 (256 R^3 + 15 R s^2) + r^3 (256 R^4 - 24 R^2 s^2 + 3 s^4) + r (24 R^2 s^4 + s^6))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_1 X_{40}|^2 &: 4 R (-2 r + R) \\
|X_1 X_{41}|^2 &: -\frac{4 r^2 R (r^5 + 16 r^4 R - 16 R^3 s^2 + 3 R s^4 + r^3 (96 R^2 - 4 s^2) + r^2 (256 R^3 - 33 R s^2) + r (256 R^4 - 72 R^2 s^2 + 3 s^4))}{(r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2} \\
|X_1 X_{42}|^2 &: \frac{4 r^2 R^2 (5 r^2 - 16 r R + s^2)}{(r^2 - 2 r R + s^2)^2} \\
|X_1 X_{43}|^2 &: \frac{16 r^2 R^2 (5 r^2 - 16 r R + s^2)}{(r^2 - 8 r R + s^2)^2} \\
|X_1 X_{44}|^2 &: -\frac{36 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_1 X_{45}|^2 &: -\frac{36 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(3 r^2 + 12 r R + s^2)^2} \\
|X_1 X_{46}|^2 &: \frac{4 r^2 R (-2 r + R)}{(r - R)^2} \\
|X_1 X_{55}|^2 &: \frac{r^2 R (-2 r + R)}{(r + R)^2} \\
|X_1 X_{56}|^2 &: \frac{r^2 R (-2 r + R)}{(r - R)^2} \\
|X_1 X_{57}|^2 &: \frac{4 r^2 R (-2 r + R)}{(r - 2 R)^2}
\end{aligned}$$

$$\begin{aligned}
|X_1 X_{58}|^2 &: \frac{4 r^2 R (-6 r^3 - 19 r^2 R + R s^2 + 2 r (-8 R^2 + s^2))}{(-3 r^2 - 4 r R + s^2)^2} \\
|X_1 X_{63}|^2 &: \frac{R (-6 r^3 - 19 r^2 R + R s^2 + 2 r (-8 R^2 + s^2))}{(r + R)^2} \\
|X_1 X_{65}|^2 &: \frac{r^2 (-2 r + R)}{R} \\
|X_1 X_{69}|^2 &: \frac{r^6 + 8 r^5 R - 24 r^3 R s^2 + 7 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 - 9 s^2)}{(r^2 + 4 r R - s^2)^2} \\
|X_1 X_{72}|^2 &: -8 r^2 - \frac{r^3}{R} - 16 r R + s^2 + \frac{r s^2}{R} \\
|X_1 X_{75}|^2 &: \frac{r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2)}{(r^2 + 4 r R + s^2)^2} \\
|X_1 X_{76}|^2 &: \left(r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} + r^8 (96 R^2 + 5 s^2) + 8 r^7 (32 R^3 + 3 R s^2) + \right. \\
&\quad \left. 2 r^6 (128 R^4 - 24 R^2 s^2 + 5 s^4) - 8 r^5 (32 R^3 s^2 + 3 R s^4) + 2 r^4 (128 R^2 s^4 + 5 s^6) - \right. \\
&\quad \left. 8 r^3 (32 R^3 s^4 + 7 R s^6) + r^2 (144 R^2 s^6 + 5 s^8) \right) / \left(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2) \right)^2 \\
|X_1 X_{78}|^2 &: \frac{R^2 (5 r^2 - 16 r R + s^2)}{(r - R)^2} \\
|X_1 X_{79}|^2 &: \frac{4 r^2 (2 r^2 + 8 r R + 9 R^2 - 2 s^2)}{(2 r + 3 R)^2} \\
|X_1 X_{80}|^2 &: 4 r^2 \\
|X_1 X_{81}|^2 &: \frac{r^2 R (-6 r^3 - 19 r^2 R + R s^2 + 2 r (-8 R^2 + s^2))}{(r^2 + r R - s^2)^2} \\
|X_1 X_{83}|^2 &: \left(9 r^{10} + 80 r^9 R - 40 r R s^8 + s^{10} + r^8 (-160 R^2 + 21 s^2) - 8 r^7 (480 R^3 - 29 R s^2) + \right. \\
&\quad \left. 10 r^6 (-1408 R^4 + 168 R^2 s^2 + s^4) - 8 r^5 (2048 R^5 - 960 R^3 s^2 + 25 R s^4) + \right. \\
&\quad \left. 2 r^4 (6656 R^4 s^2 - 704 R^2 s^4 - 3 s^6) - 8 r^3 (512 R^3 s^4 - 15 R s^6) + r^2 (592 R^2 s^6 - 3 s^8) \right) / \\
&\quad \left(5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2) \right)^2 \\
|X_1 X_{85}|^2 &: \frac{r^6 + 16 r^5 R - 24 r R s^4 + s^6 + 3 r^4 (32 R^2 + s^2) + 8 r^3 (32 R^3 + 3 R s^2) + r^2 (256 R^4 + 48 R^2 s^2 + 3 s^4)}{(r^2 + 8 r R + 16 R^2 + s^2)^2} \\
|X_1 X_{86}|^2 &: \frac{r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2)}{(r^2 + 4 r R + 5 s^2)^2} \\
|X_1 X_{88}|^2 &: -\frac{9 r^2 R (10 r^3 - 37 r^2 R - R s^2 + 2 r (8 R^2 + s^2))}{(3 r^2 - 15 r R + s^2)^2} \\
|X_1 X_{89}|^2 &: -\frac{9 r^2 R (28 r^3 + 35 r^2 R + 16 r R^2 - 4 r s^2 - R s^2)}{(-6 r^2 + 3 r R + 2 s^2)^2} \\
|X_1 X_{99}|^2 &: \frac{r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2)}{r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)} \\
|X_1 X_{141}|^2 &: \frac{3 r^6 + 20 r^5 R - 20 r R s^4 + s^6 + r^4 (16 R^2 - 9 s^2) - 16 r^3 R (4 R^2 + s^2) + r^2 (68 R^2 s^2 + 5 s^4)}{4 (r^2 + 4 r R - s^2)^2} \\
|X_1 X_{142}|^2 &: \frac{3 r^4 + 20 r^3 R - 64 r R^3 + 4 R^2 s^2 + r^2 (16 R^2 - s^2)}{4 (r + 4 R)^2} \\
|X_1 X_{145}|^2 &: 5 r^2 - 16 r R + s^2 \\
|X_1 X_{190}|^2 &: \frac{-7 r^6 - 120 r^5 R - 32 r R s^4 + s^6 - 13 r^4 (48 R^2 + s^2) - 8 r^3 (128 R^3 - 17 R s^2) + 5 r^2 (64 R^2 s^2 - s^4)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_1 X_{192}|^2 &: \frac{-3 r^6 - 40 r^5 R - 24 r R s^4 + s^6 - r^4 (176 R^2 + 5 s^2) - 64 r^3 (4 R^3 - R s^2) + r^2 (144 R^2 s^2 - s^4)}{(r^2 + 4 r R + s^2)^2} \\
|X_1 X_{194}|^2 &: -\frac{(r^2 + 4 r R + s^2)^2 (3 r^6 + 40 r^5 R + 24 r R s^4 - s^6 + r^4 (176 R^2 + 5 s^2) + 64 r^3 (4 R^3 - R s^2) + r^2 (-144 R^2 s^2 + s^4))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_1 X_{200}|^2 &: \frac{4 R^2 (5 r^2 - 16 r R + s^2)}{(r - 2 R)^2} \\
|X_1 X_{210}|^2 &: \frac{-7 r^2 R - 64 r R^2 + 2 r s^2 + 4 R s^2}{9 R} \\
|X_1 X_{213}|^2 &: -\frac{4 r^2 R (r^2 + 4 r R + s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2} \\
|X_1 X_{238}|^2 &: -\frac{16 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(-3 r^2 - 12 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_1 X_{239}|^2 &: \frac{(5r^2 - 16rR + s^2)(r^2 + 4rR + s^2)^2}{(-3r^2 - 12rR + s^2)^2} \\
|X_1 X_{244}|^2 &: \frac{4r^2 R(-10r^3 + 37r^2 R + R s^2 - 2r(8R^2 + s^2))}{(r^2 - 14rR + s^2)^2} \\
|X_1 X_{304}|^2 &: \frac{(r^2 + 4rR - s^2)^2 (r^6 + 8r^5 R + 24r^3 R s^2 + 3r^2 s^4 - 16rR s^4 + s^6 + r^4(16R^2 + 3s^2))}{(r^4 + 8r^3 R + 16r^2 R^2 + 8rR s^2 - s^4)^2} \\
|X_1 X_{306}|^2 &: \frac{(r^2 + 2rR - s^2)^2 (5r^2 - 16rR + s^2)}{(-3r^2 - 6rR + s^2)^2} \\
|X_1 X_{312}|^2 &: \frac{r^6 - 16r^5 R + 3r^4 s^2 - 24rR s^4 + s^6 - 8r^3 R(32R^2 + s^2) + 3r^2(48R^2 s^2 + s^4)}{(r^2 - 8rR + s^2)^2} \\
|X_1 X_{319}|^2 &: \frac{r^6 + 8r^5 R - 72r^3 R s^2 + 51r^2 s^4 - 144rR s^4 + 9s^6 + r^4(16R^2 - 21s^2)}{(r^2 + 4rR - 3s^2)^2} \\
|X_1 X_{320}|^2 &: \frac{9r^6 + 72r^5 R - 72r^3 R s^2 + 11r^2 s^4 - 16rR s^4 + s^6 + 9r^4(16R^2 - 5s^2)}{(-3r^2 - 12rR + s^2)^2} \\
|X_1 X_{321}|^2 &: \frac{r^6 - 4r^5 R - 20rR s^4 + s^6 + 8r^3 R(-8R^2 + s^2) + 3r^4(-4R^2 + s^2) + r^2(68R^2 s^2 + 3s^4)}{(r^2 - 2rR + s^2)^2} \\
|X_1 X_{345}|^2 &: \frac{9r^6 - 48r^5 R - 24rR s^4 + s^6 - r^4(256R^2 + 9s^2) - 8r^3(32R^3 - 9R s^2) + r^2(144R^2 s^2 - s^4)}{(-5r^2 - 8rR + s^2)^2} \\
|X_1 X_{346}|^2 &: \frac{-16r^5 R - 24rR s^4 + s^6 - 4r^4(32R^2 + s^2) - 32r^3(8R^3 - R s^2) + r^2(144R^2 s^2 + s^4)}{(-2r^2 - 8rR + s^2)^2} \\
|X_1 X_{350}|^2 &: \frac{(r^{10} + 16r^9 R - 24rR s^8 + s^{10} + r^8(96R^2 + 5s^2) + 8r^7(32R^3 + 3R s^2) + 2r^6(128R^4 - 24R^2 s^2 + 5s^4) - 8r^5(32R^3 s^2 + 3R s^4) + 2r^4(128R^2 s^4 + 5s^6) - 8r^3(32R^3 s^4 + 7R s^6) + r^2(144R^2 s^6 + 5s^8))}{(r^4 + 8r^3 R - 16rR s^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_2 X_3|^2 &: \frac{1}{9}(2r^2 + 8rR + 9R^2 - 2s^2) \\
|X_2 X_4|^2 &: \frac{4}{9}(2r^2 + 8rR + 9R^2 - 2s^2) \\
|X_2 X_5|^2 &: \frac{1}{36}(2r^2 + 8rR + 9R^2 - 2s^2) \\
|X_2 X_6|^2 &: -\frac{r^6 + 12r^5 R + 12rR s^4 - s^6 + r^4(48R^2 + 9s^2) + 8r^3(8R^3 + 3R s^2) + r^2(60R^2 s^2 - 9s^4)}{9(r^2 + 4rR - s^2)^2} \\
|X_2 X_7|^2 &: -\frac{4(r^4 + 12r^3 R - 4R^2 s^2 + r^2(48R^2 + 5s^2) + 8r(8R^3 - R s^2))}{9(r + 4R)^2} \\
|X_2 X_8|^2 &: \frac{4}{9}(5r^2 - 16rR + s^2) \\
|X_2 X_9|^2 &: -\frac{r^4 + 12r^3 R - 4R^2 s^2 - 8rR(-8R^2 + s^2) + r^2(48R^2 + 5s^2)}{9(r + 4R)^2} \\
|X_2 X_{10}|^2 &: \frac{1}{36}(5r^2 - 16rR + s^2) \\
|X_2 X_{11}|^2 &: \frac{r^3 + 8r^2 R + 16rR^2 - r s^2 - R s^2}{18r - 9R} \\
|X_2 X_{12}|^2 &: \frac{2r^4 + r^3 R + R^2 s^2 + r^2(4R^2 - 2s^2) + r(-16R^3 + R s^2)}{9(2r + R)^2} \\
|X_2 X_{20}|^2 &: \frac{16}{9}(2r^2 + 8rR + 9R^2 - 2s^2) \\
|X_2 X_{21}|^2 &: \frac{4r^2(2r^2 + 8rR + 9R^2 - 2s^2)}{9(2r + 3R)^2} \\
|X_2 X_{31}|^2 &: \frac{9r^6 + 72r^5 R - 72r^3 R s^2 + 11r^2 s^4 - 16rR s^4 + s^6 + 9r^4(16R^2 - 5s^2)}{9(-3r^2 - 6rR + s^2)^2} \\
|X_2 X_{32}|^2 &: -\left((r^{10} + 20r^9 R + 20rR s^8 - s^{10} + r^8(160R^2 + 11s^2) + 16r^7(40R^3 + 7R s^2) + 2r^6(640R^4 + 198R^2 s^2 - 59s^4) + 8r^5(128R^5 + 76R^3 s^2 - 73R s^4) + 2r^4(224R^4 s^2 - 324R^2 s^4 + 59s^6) - 112r^3(2R^3 s^4 - R s^6) - r^2(52R^2 s^6 + 11s^8))\right) / \left(9(r^4 + 8r^3 R - 8rR s^2 + s^4 + 2r^2(8R^2 - 3s^2))^2\right) \\
|X_2 X_{35}|^2 &: \frac{8r^4 + 46r^3 R + R^2 s^2 + r^2(61R^2 - 8s^2) - 2rR(8R^2 + s^2)}{9(2r + R)^2} \\
|X_2 X_{36}|^2 &: \frac{4r^3 + 11r^2 R + 16rR^2 - 4r s^2 - R s^2}{18r - 9R}
\end{aligned}$$

$$\begin{aligned}
|X_2X_{37}|^2 &: -\frac{r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5Rs^2)-r^2(68R^2s^2+s^4)}{9(r^2+4rR+s^2)^2} \\
|X_2X_{38}|^2 &: -\frac{7r^6-120r^5R-32rRs^4+s^6-13r^4(48R^2+s^2)-8r^3(128R^3-17Rs^2)+5r^2(64R^2s^2-s^4)}{9(r^2-2rR+s^2)^2} \\
|X_2X_{39}|^2 &: -\left((r^{10}+20r^9R+20rRs^8-s^{10}+16r^3Rs^4(-14R^2+s^2)+16r^7R(40R^2+s^2)+r^8(160R^2+3s^2)+2r^6(640R^4+6R^2s^2+s^4)+8r^5(128R^5+12R^3s^2-Rs^4)+r^4(448R^4s^2-264R^2s^4-2s^6)-r^2(52R^2s^6+3s^8))\right)/\left(9(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2\right) \\
|X_2X_{40}|^2 &: \frac{1}{9}(-r^2-4rR+36R^2-5s^2) \\
|X_2X_{41}|^2 &: -\left((r^8+20r^7R+32rR^3s^4-4R^2s^6+r^6(160R^2+11s^2)+16r^5(40R^3+7Rs^2)+r^4(1280R^4+396R^2s^2-45s^4)+4r^3(256R^5+152R^3s^2-41Rs^4)+r^2(448R^4s^2-72R^2s^4+9s^6))\right)/\left(9(r^3+8r^2R+16rR^2-3Rs^2-2Rs^2)^2\right) \\
|X_2X_{42}|^2 &: \frac{(5r^2-16rR+s^2)(r^2+4rR+s^2)^2}{9(r^2-2rR+s^2)^2} \\
|X_2X_{43}|^2 &: \frac{(5r^2-16rR+s^2)(r^2+4rR+s^2)^2}{9(r^2-8rR+s^2)^2} \\
|X_2X_{44}|^2 &: -\frac{9r^6-108r^5R-4rRs^4+s^6-24r^3R(24R^2+s^2)-3r^4(144R^2+19s^2)+r^2(-156R^2s^2+17s^4)}{9(-3r^2-12rR+s^2)^2} \\
|X_2X_{45}|^2 &: -\frac{9r^6-108r^5R-28rRs^4+s^6-3r^4(144R^2+11s^2)-24r^3(24R^3-7Rs^2)+r^2(228R^2s^2-7s^4)}{9(3r^2+12rR+s^2)^2} \\
|X_2X_{46}|^2 &: -\frac{r^4+8r^3R-R^2s^2-4rR(-4R^2+s^2)+r^2(11R^2+5s^2)}{9(r-R)^2} \\
|X_2X_{55}|^2 &: \frac{(2r-R)(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{9(r+R)^2} \\
|X_2X_{56}|^2 &: \frac{2r^4+r^3R+R^2s^2+r^2(4R^2-2s^2)+r(-16R^3+Rs^2)}{9(r-R)^2} \\
|X_2X_{57}|^2 &: -\frac{r^4+12r^3R-4R^2s^2-8rR(-8R^2+s^2)+r^2(48R^2+5s^2)}{9(r-2R)^2} \\
|X_2X_{58}|^2 &: \frac{9r^6+36r^5R-12rRs^4+s^6+5r^4(4R^2-9s^2)-8r^3(8R^3+5Rs^2)+r^2(-60R^2s^2+11s^4)}{9(-3r^2-4rR+s^2)^2} \\
|X_2X_{63}|^2 &: -\frac{r^4+12r^3R-4R^2s^2-8rR(-8R^2+s^2)+r^2(48R^2+5s^2)}{9(r+R)^2} \\
|X_2X_{65}|^2 &: -\frac{15r^3-28r^2R-16rR^2+3rs^2+Rs^2}{9R} \\
|X_2X_{69}|^2 &: -\frac{4(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4))}{9(r^2+4rR-s^2)^2} \\
|X_2X_{72}|^2 &: -\frac{12r^3+55r^2R+64rR^2-6rs^2-4Rs^2}{9R} \\
|X_2X_{75}|^2 &: -\frac{4(r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5Rs^2)-r^2(68R^2s^2+s^4))}{9(r^2+4rR+s^2)^2} \\
|X_2X_{76}|^2 &: -\left((4(r^{10}+20r^9R+20rRs^8-s^{10}+16r^3Rs^4(-14R^2+s^2)+16r^7R(40R^2+s^2)+r^8(160R^2+3s^2)+2r^6(640R^4+6R^2s^2+s^4)+8r^5(128R^5+12R^3s^2-Rs^4)+r^4(448R^4s^2-264R^2s^4-2s^6)-r^2(52R^2s^6+3s^8)))\right)/\left(9(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2\right) \\
|X_2X_{78}|^2 &: \frac{(r+2R)^2(5r^2-16rR+s^2)}{9(r-R)^2} \\
|X_2X_{79}|^2 &: \frac{8r^4+38r^3R+9R^2s^2-r^2(3R^2+56s^2)-6r(24R^3-5Rs^2)}{9(2r+3R)^2} \\
|X_2X_{80}|^2 &: \frac{28r^3+35r^2R+16rR^2-4rs^2-Rs^2}{18r-9R}
\end{aligned}$$

$$\begin{aligned}
|X_2X_{81}|^2 &: -\frac{r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4)}{9(r^2+rR-s^2)^2} \\
|X_2X_{83}|^2 &: -\left(4(r^{10}+20r^9R+20rRs^8-s^{10}+r^8(160R^2+11s^2)+16r^7(40R^3+7Rs^2)+2r^6(640R^4+198R^2s^2-59s^4)+8r^5(128R^5+76R^3s^2-73Rs^4)+2r^4(224R^4s^2-324R^2s^4+59s^6)-112r^3(2R^3s^4-Rs^6)-r^2(52R^2s^6+11s^8))\right) / \\
&\quad \left(9(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2\right) \\
|X_2X_{85}|^2 &: -\frac{4(r^6+20r^5R+r^4(160R^2+s^2)+16r^3(40R^3-Rs^2)-(-8R^2s+s^3)^2+r^2(1280R^4-180R^2s^2-s^4)+4r(256R^5-104R^3s^2+9Rs^4))}{9(r^2+8rR+16R^2+s^2)^2} \\
|X_2X_{86}|^2 &: -\frac{4(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4))}{9(r^2+4rR+5s^2)^2} \\
|X_2X_{88}|^2 &: -\frac{9r^6-108r^5R-28rRs^4+s^6-3r^4(144R^2+11s^2)-24r^3(24R^3-7Rs^2)+r^2(228R^2s^2-7s^4)}{9(3r^2-15rR+s^2)^2} \\
|X_2X_{89}|^2 &: -\frac{4(9r^6+108r^5R+4rRs^4-s^6+24r^3R(24R^2+s^2)+r^4(432R^2+57s^2)+r^2(156R^2s^2-17s^4))}{9(-6r^2+3rR+2s^2)^2} \\
|X_2X_{99}|^2 &: -\frac{4(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4))}{9(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
|X_2X_{141}|^2 &: -\frac{r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4)}{36(r^2+4rR-s^2)^2} \\
|X_2X_{142}|^2 &: -\frac{r^4+12r^3R-4R^2s^2-8rR(-8R^2+s^2)+r^2(48R^2+5s^2)}{36(r+4R)^2} \\
|X_2X_{145}|^2 &: \frac{16}{9}(5r^2-16rR+s^2) \\
|X_2X_{190}|^2 &: -\frac{4(9r^6+108r^5R+28rRs^4-s^6+r^4(432R^2+33s^2)+24r^3(24R^3-7Rs^2)+r^2(-228R^2s^2+7s^4))}{9(-3r^2-12rR+s^2)^2} \\
|X_2X_{192}|^2 &: -\frac{16(r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5Rs^2)-r^2(68R^2s^2+s^4))}{9(r^2+4rR+s^2)^2} \\
|X_2X_{194}|^2 &: -\left((16(r^{10}+20r^9R+20rRs^8-s^{10}+16r^3Rs^4(-14R^2+s^2)+16r^7R(40R^2+s^2)+r^8(160R^2+3s^2)+2r^6(640R^4+6R^2s^2+s^4)+8r^5(128R^5+12R^3s^2-Rs^4)+r^4(448R^4s^2-264R^2s^4-2s^6)-r^2(52R^2s^6+3s^8)))\right) / \\
&\quad \left(9(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2\right) \\
|X_2X_{200}|^2 &: \frac{(r+4R)^2(5r^2-16rR+s^2)}{9(r-2R)^2} \\
|X_2X_{210}|^2 &: -\frac{r^3+8r^2R+16rR^2-rs^2-Rs^2}{9R} \\
|X_2X_{213}|^2 &: -\left((r^{10}+20r^9R+12rRs^8-s^{10}-11r^2s^6(-4R^2+s^2)+32r^3Rs^4(9R^2+s^2)+r^8(160R^2+11s^2)+16r^7(40R^3+7Rs^2)+2r^6(640R^4+198R^2s^2+5s^4)+16r^5(64R^5+38R^3s^2+7Rs^4)+2r^4(224R^4s^2+108R^2s^4-5s^6))\right) / \\
&\quad \left(9(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2\right) \\
|X_2X_{238}|^2 &: \frac{9r^6+72r^5R-72r^3Rs^2+11r^2s^4-16rRs^4+s^6+9r^4(16R^2-5s^2)}{9(-3r^2-12rR+s^2)^2} \\
|X_2X_{239}|^2 &: \frac{16s^4(5r^2-16rR+s^2)}{9(-3r^2-12rR+s^2)^2} \\
|X_2X_{244}|^2 &: -\frac{7r^6-120r^5R-32rRs^4+s^6-13r^4(48R^2+s^2)-8r^3(128R^3-17Rs^2)+5r^2(64R^2s^2-s^4)}{9(r^2-14rR+s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_2X_{304}|^2 &: - \left((4 (r^{10} + 20 r^9 R + 20 r R s^8 - s^{10} + r^8 (160 R^2 - s^2) + 16 r^7 (40 R^3 - 3 R s^2) + \right. \\
&\quad 2 r^6 (640 R^4 - 186 R^2 s^2 - s^4) + 8 r^5 (128 R^5 - 116 R^3 s^2 + 13 R s^4) + \\
&\quad \left. r^4 (-576 R^4 s^2 + 392 R^2 s^4 + 2 s^6) + 32 r^3 (11 R^3 s^4 - 3 R s^6) + r^2 (-84 R^2 s^6 + s^8) \right) \Big/ \\
&\quad \left(9 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2 \right) \\
|X_2X_{306}|^2 &: \frac{4 s^4 (5 r^2 - 16 r R + s^2)}{9 (-3 r^2 - 6 r R + s^2)^2} \\
|X_2X_{312}|^2 &: - \frac{4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{9 (r^2 - 8 r R + s^2)^2} \\
|X_2X_{319}|^2 &: - \frac{4 (r^6 + 12 r^5 R + 132 r R s^4 - 9 s^6 + r^4 (48 R^2 + 17 s^2) + 8 r^3 (8 R^3 + 11 R s^2) + r^2 (188 R^2 s^2 - 57 s^4))}{9 (r^2 + 4 r R - 3 s^2)^2} \\
|X_2X_{320}|^2 &: - \frac{4 (9 r^6 + 108 r^5 R + 4 r R s^4 - s^6 + 24 r^3 R (24 R^2 + s^2) + r^4 (432 R^2 + 57 s^2) + r^2 (156 R^2 s^2 - 17 s^4))}{9 (-3 r^2 - 12 r R + s^2)^2} \\
|X_2X_{321}|^2 &: - \frac{4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{9 (r^2 - 2 r R + s^2)^2} \\
|X_2X_{345}|^2 &: - \frac{4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{9 (-5 r^2 - 8 r R + s^2)^2} \\
|X_2X_{346}|^2 &: - \frac{4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{9 (-2 r^2 - 8 r R + s^2)^2} \\
|X_2X_{350}|^2 &: - \frac{4 (r^2 + 4 r R + s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{9 (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_3X_4|^2 &: 2 r^2 + 8 r R + 9 R^2 - 2 s^2 \\
|X_3X_5|^2 &: \frac{1}{4} (2 r^2 + 8 r R + 9 R^2 - 2 s^2) \\
|X_3X_6|^2 &: \frac{R^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(r^2 + 4 r R - s^2)^2} \\
|X_3X_7|^2 &: \frac{16 R^4 + r^2 (R^2 - 4 s^2) + r (8 R^3 - 4 R s^2)}{(r + 4 R)^2} \\
|X_3X_8|^2 &: (-2 r + R)^2 \\
|X_3X_9|^2 &: \frac{R (r^2 R + 16 R^3 - 4 R s^2 + 2 r (4 R^2 + s^2))}{(r + 4 R)^2} \\
|X_3X_{10}|^2 &: \frac{3 r^2}{4} + r R + R^2 - \frac{s^2}{4} \\
|X_3X_{11}|^2 &: \frac{r^3 + 5 r^2 R + 6 r R^2 - R^3 - r s^2}{2 r - R} \\
|X_3X_{12}|^2 &: \frac{2 r^4 + 7 r^3 R + R^4 + r^2 (11 R^2 - 2 s^2) + r (4 R^3 - R s^2)}{(2 r + R)^2} \\
|X_3X_{20}|^2 &: 2 r^2 + 8 r R + 9 R^2 - 2 s^2 \\
|X_3X_{21}|^2 &: \frac{R^2 (2 r^2 + 8 r R + 9 R^2 - 2 s^2)}{(2 r + 3 R)^2} \\
|X_3X_{31}|^2 &: \frac{R^2 (5 r^4 + 20 r^3 R - 12 r R s^2 + s^4 + 2 r^2 (18 R^2 - 5 s^2))}{(-3 r^2 - 6 r R + s^2)^2} \\
|X_3X_{32}|^2 &: \frac{R^2 (r^2 + 4 r R - s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2} \\
|X_3X_{35}|^2 &: \frac{R^3 (-2 r + R)}{(2 r + R)^2} \\
|X_3X_{36}|^2 &: - \frac{R^3}{2 r - R} \\
|X_3X_{37}|^2 &: \frac{R (r^4 R + R s^4 + 4 r^3 (2 R^2 + s^2) + 2 r^2 (8 R^3 + 3 R s^2) + r (8 R^2 s^2 - 4 s^4))}{(r^2 + 4 r R + s^2)^2} \\
|X_3X_{38}|^2 &: \frac{R (-12 r^5 - 75 r^4 R + R s^4 - 4 r^3 (29 R^2 - 4 s^2) - 4 r s^2 (R^2 + s^2) + r^2 (4 R^3 + 38 R s^2))}{(r^2 - 2 r R + s^2)^2} \\
|X_3X_{39}|^2 &: \frac{R^2 (r^2 + 4 r R - s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_3X_{40}|^2 &: R (-2 r + R) \\
|X_3X_{41}|^2 &: \frac{R^2 (r^6 + 16 r^5 R + 4 R^2 s^4 + 2 r^4 (48 R^2 - 5 s^2) + 4 r^3 (64 R^3 - 21 R s^2) + r^2 (256 R^4 - 192 R^2 s^2 + 5 s^4) + r (-64 R^3 s^2 + 12 R s^4))}{(r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_3X_{42}|^2 &: \frac{R^2 (-3r^4 - 20r^3R - 4rRs^2 + s^4 + 2r^2(2R^2 - 9s^2))}{(r^2 - 2rR + s^2)^2} \\
|X_3X_{43}|^2 &: \frac{R(2r^5 + 25r^4R + R^2s^4 + 2r^2s^2(-8R^2 + s^2) + 4r^3(12R^2 + s^2) + r^2(64R^3 - 38Rs^2))}{(r^2 - 8rR + s^2)^2} \\
|X_3X_{44}|^2 &: \frac{R(9r^4R + R^2s^4 + 4r^2s^2(-6R^2 + s^2) + 12r^3(6R^2 + s^2) + 6r^2(24R^3 - 11Rs^2))}{(-3r^2 - 12rR + s^2)^2} \\
|X_3X_{45}|^2 &: \frac{R(9r^4R + R^2s^4 + 24r^3(3R^2 + s^2) + 6r^2(24R^3 - Rs^2) + 8r(3R^2s^2 - s^4))}{(3r^2 + 12rR + s^2)^2} \\
|X_3X_{46}|^2 &: -\frac{(2r-R)R(r+R)^2}{(r-R)^2} \\
|X_3X_{55}|^2 &: \frac{R^3(-2r+R)}{(r+R)^2} \\
|X_3X_{56}|^2 &: \frac{R^3(-2r+R)}{(r-R)^2} \\
|X_3X_{57}|^2 &: -\frac{(2r-R)R(r+2R)^2}{(r-2R)^2} \\
|X_3X_{58}|^2 &: \frac{R^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))}{(-3r^2 - 4rR + s^2)^2} \\
|X_3X_{63}|^2 &: \frac{R(-r^3 - 5r^2R + R^3 + r(-6R^2 + s^2))}{(r+R)^2} \\
|X_3X_{65}|^2 &: -\frac{(2r-R)(r+R)^2}{R} \\
|X_3X_{69}|^2 &: \frac{-8rR^3s^2 + R^2s^4 + r^4(R^2 - 8s^2) + 8r^3(R^3 - 4Rs^2) + 2r^2(8R^4 - 25R^2s^2 + 4s^4)}{(r^2 + 4rR - s^2)^2} \\
|X_3X_{72}|^2 &: \frac{-r^3 - 5r^2R + R^3 + r(-6R^2 + s^2)}{R} \\
|X_3X_{75}|^2 &: \frac{R(r^4R + R^2s^4 + 8r^2s^2(R^2 - s^2) + 8r^3(R^2 + 3s^2) + 2r^2(8R^3 + 25Rs^2))}{(r^2 + 4rR + s^2)^2} \\
|X_3X_{76}|^2 &: \frac{R^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))^2}{(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_3X_{78}|^2 &: \frac{R(-r^3 - 5r^2R + R^3 + r(-6R^2 + s^2))}{(r-R)^2} \\
|X_3X_{79}|^2 &: \frac{4r^4 + 26r^3R + 9R^4 + 4r^2(13R^2 - 3s^2) + 6r(5R^3 - Rs^2)}{(2r + 3R)^2} \\
|X_3X_{80}|^2 &: \frac{6r^3 + 12r^2R + 8rR^2 - R^3 - 2rs^2}{2r - R} \\
|X_3X_{81}|^2 &: \frac{R(-r^5 - 5r^4R + R^2s^4 - 2r^3(3R^2 + s^2) + r^2(R^3 - 8Rs^2) - r(2R^2s^2 + s^4))}{(r^2 + rR - s^2)^2} \\
|X_3X_{83}|^2 &: (4r^{10} + 80r^9R + s^8(25R^2 - 4s^2) + r^8(665R^2 + 12s^2) + \\
& 16r^7(185R^3 + 4Rs^2) + r^6(7520R^4 - 412R^2s^2 + 8s^4) + 16r^5(656R^5 - 231R^3s^2 - 2Rs^4) + \\
& r^4(6400R^6 - 8768R^4s^2 + 534R^2s^4 - 8s^6) + r^3(-6400R^5s^2 + 3184R^3s^4 + 64Rs^6) + \\
& 4r^2(600R^4s^4 - 167R^2s^6 - 3s^8) - 80r(5R^3s^6 - Rs^8)) / \\
& (5r^4 + 40r^3R - 40rRs^2 + 5s^4 + r^2(80R^2 - 6s^2))^2 \\
|X_3X_{85}|^2 &: \frac{R(r^4R + 256R^5 + 32R^3s^2 - 15Rs^4 + 8r^3(2R^2 + s^2) + r^2(96R^3 + 66Rs^2) + 8r(32R^4 + 18R^2s^2 - 3s^4))}{(r^2 + 8rR + 16R^2 + s^2)^2} \\
|X_3X_{86}|^2 &: \frac{8r^3R^3 + 40rR^3s^2 + 25R^2s^4 - 4s^6 + r^4(R^2 - 4s^2) + 2r^2(8R^4 + 13R^2s^2 - 4s^4)}{(r^2 + 4rR + 5s^2)^2} \\
|X_3X_{88}|^2 &: \frac{R(-27r^5 - 45r^4R + R^2s^4 + 6r^3(21R^2 + s^2) + 3r^2(75R^3 - 8Rs^2) + r(-30R^2s^2 + s^4))}{(3r^2 - 15rR + s^2)^2} \\
|X_3X_{89}|^2 &: \frac{R(-54r^5 - 234r^4R + 4R^2s^4 - 12r^3(21R^2 + 2s^2) + r^2(9R^3 - 66Rs^2) + 2r(6R^2s^2 - s^4))}{(-6r^2 + 3rR + 2s^2)^2} \\
|X_3X_{99}|^2 &: R^2 \\
|X_3X_{141}|^2 &: \frac{r^6 + 12r^5R + 4R^2s^4 - s^6 + r^4(52R^2 - 7s^2) + 8r^3(12R^3 - 5Rs^2) + r^2(64R^4 - 68R^2s^2 + 7s^4) - 4r(8R^3s^2 - 3Rs^4)}{4(r^2 + 4rR - s^2)^2} \\
|X_3X_{142}|^2 &: \frac{(r+2R)^2(r^2 + 8rR + 16R^2 - 3s^2)}{4(r+4R)^2} \\
|X_3X_{145}|^2 &: 6r^2 - 32rR + R^2 + 2s^2
\end{aligned}$$

$$\begin{aligned}
|X_3X_{190}|^2 &: \frac{-4r^6 - 48R^5R - 24rR^3s^2 + R^2s^4 - r^4(183R^2 + 8s^2) + r^3(-184R^3 + 80Rs^2) + 2r^2(72R^4 + 5R^2s^2 - 2s^4)}{(-3r^2 - 12rR + s^2)^2} \\
|X_3X_{192}|^2 &: \frac{-2r^6 - 24r^5R + 8rRs^2(R^2 - 5s^2) + s^4(R^2 + 2s^2) - r^4(95R^2 + 2s^2) - 8r^3(15R^3 - 8Rs^2) + 2r^2(8R^4 + 49R^2s^2 + s^4)}{(r^2 + 4rR + s^2)^2} \\
|X_3X_{194}|^2 &: - \left((2r^{10} + 40r^9R - s^8(R^2 + 2s^2) + \right. \\
&\quad r^8(319R^2 + 6s^2) + 16r^7(79R^3 + 2Rs^2) + 4r^6(616R^4 + 7R^2s^2 + s^4) + \\
&\quad 16r^5(112R^5 + 15R^3s^2 - Rs^4) - 2r^4(128R^6 - 544R^4s^2 + 195R^2s^4 + 2s^6) + \\
&\quad 16r^3(16R^5s^2 - 31R^3s^4 + 2Rs^6) - 2r^2(48R^4s^4 + 50R^2s^6 + 3s^8) + 8r(2R^3s^6 + 5Rs^8) \Big) / \\
&\quad \left(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2) \right)^2 \\
|X_3X_{200}|^2 &: \frac{R(-3r^2R - 20rR^2 + 4R^3 + 2Rs^2)}{(r - 2R)^2} \\
|X_3X_{210}|^2 &: \frac{1}{9} \left(-r^2 - 4rR + 9R^2 - 2s^2 + \frac{2Rs^2}{R} \right) \\
|X_3X_{213}|^2 &: \frac{R^2(r^8 + 16r^7R - 8rRs^6 + s^8 + r^6(96R^2 - 4s^2) + 8r^5(32R^3 - 3Rs^2) + 2r^4(128R^4 - 5s^4) + 16r^3(8R^3s^2 - 5Rs^4) - 4r^2(4R^2s^4 + s^6))}{(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2} \\
|X_3X_{238}|^2 &: \frac{R(2r^5 + 25r^4R + Rs^4 + 4r^3(26R^2 + s^2) + 2r^2(72R^3 - 19Rs^2) + r(-24R^2s^2 + 2s^4))}{(-3r^2 - 12rR + s^2)^2} \\
|X_3X_{239}|^2 &: \frac{2r^6 + 24r^5R + s^4(R^2 + 2s^2) + 3r^4(35R^2 + 2s^2) + 8r^3(25R^3 + 3Rs^2) + 6r^2(24R^4 - R^2s^2 + s^4) - 8r(3R^3s^2 + 4Rs^4)}{(-3r^2 - 12rR + s^2)^2} \\
|X_3X_{244}|^2 &: \frac{R(-24r^5 - 83r^4R - 28rR^2s^2 + Rs^4 + 4r^3(5R^2 + 2s^2) + 2r^2(98R^3 - Rs^2))}{(r^2 - 14rR + s^2)^2} \\
|X_3X_{304}|^2 &: \frac{1}{(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2} \\
&\quad R(r^8R + 32r^2R^3s^4 - 16rR^2s^6 + Rs^8 + 16r^7(R^2 + s^2) + 32r^6(3R^3 + 5Rs^2) + 16r^5 \\
&\quad (16R^4 + 33R^2s^2 - 4s^4) + r^4(256R^5 + 640R^3s^2 - 290Rs^4) + 16r^3(16R^4s^2 - 17R^2s^4 + 3s^6)) \\
|X_3X_{306}|^2 &: \frac{2r^6 + 16r^5R - 12rR^3s^2 + R^2s^4 + r^4(49R^2 - 8s^2) + 4r^3(17R^3 - 8Rs^2) + r^2(36R^4 - 38R^2s^2 + 6s^4)}{(-3r^2 - 6rR + s^2)^2} \\
|X_3X_{312}|^2 &: \frac{R(-8r^5 - 31r^4R - 16rR^2s^2 + Rs^4 - 8r^3(2R^2 - 3s^2) + 2r^2(32R^3 - 7Rs^2))}{(r^2 - 8rR + s^2)^2} \\
|X_3X_{319}|^2 &: \frac{9R^2s^4 + r^4(R^2 - 16s^2) - 24rRs^2(R^2 + s^2) + 8r^3(R^3 - 11Rs^2) + 2r^2(8R^4 - 75R^2s^2 + 24s^4)}{(r^2 + 4rR - 3s^2)^2} \\
|X_3X_{320}|^2 &: \frac{R^2s^4 + r^4(9R^2 - 48s^2) + 8rRs^2(-3R^2 + s^2) + 24r^3(3R^3 - 5Rs^2) + 2r^2(72R^4 - 75R^2s^2 + 8s^4)}{(-3r^2 - 12rR + s^2)^2} \\
|X_3X_{321}|^2 &: \frac{R(-4r^5 - 23r^4R + Rs^4 - 4rR^2s^2 + r^3(-36R^2 + 24s^2) + r^2(4R^3 + 26Rs^2))}{(r^2 - 2rR + s^2)^2} \\
|X_3X_{345}|^2 &: \frac{4r^6 + 24r^5R - 16rR^3s^2 + R^2s^4 + r^4(57R^2 - 8s^2) + 8r^3(10R^3 - 3Rs^2) + r^2(64R^4 - 26R^2s^2 + 4s^4)}{(-5r^2 - 8rR + s^2)^2} \\
|X_3X_{346}|^2 &: \frac{32r^3R^3 - 16rR^3s^2 + R^2s^4 + r^4(4R^2 - 2s^2) + 2r^2(32R^4 - 10R^2s^2 + s^4)}{(-2r^2 - 8rR + s^2)^2} \\
|X_3X_{350}|^2 &: \left(R(r^8R + Rs^8 + 8rs^6(-4R^2 + s^2) + 8r^7(2R^2 + s^2) + r^6(96R^3 + 52Rs^2) + 8r^5(32R^4 + 3s^4) + \right. \\
&\quad 2r^4(128R^5 - 224R^3s^2 + 83Rs^4) - 8r^3(64R^4s^2 - 26R^2s^4 - 3s^6) + \\
&\quad 4r^2(72R^3s^4 - 35Rs^6) \Big) / (r^4 + 8r^3R - 16rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \\
|X_4X_5|^2 &: \frac{1}{4} (2r^2 + 8rR + 9R^2 - 2s^2) \\
|X_4X_6|^2 &: \frac{r^6 + 12r^5R + 4R^2s^4 - s^6 + r^4(52R^2 - 7s^2) + 8r^3(12R^3 - 5Rs^2) + r^2(64R^4 - 68R^2s^2 + 7s^4) - 4r(8R^3s^2 - 3Rs^4)}{(r^2 + 4rR - s^2)^2} \\
|X_4X_7|^2 &: \frac{4R(r^2R + 16R^3 - 4Rs^2 + 2r(4R^2 + s^2))}{(r + 4R)^2} \\
|X_4X_8|^2 &: 4R(-2r + R) \\
|X_4X_9|^2 &: \frac{(r + 2R)^2(r^2 + 8rR + 16R^2 - 3s^2)}{(r + 4R)^2}
\end{aligned}$$

$$\begin{aligned}
|X_4X_{10}|^2 &: \frac{1}{4} (r^2 + 8 r R + 16 R^2 - 3 s^2) \\
|X_4X_{11}|^2 &: \frac{r^3 + 2 r^2 R - 4 R^3 - r s^2 + R s^2}{2 r - R} \\
|X_4X_{12}|^2 &: \frac{2 r^4 + 13 r^3 R + 4 R^4 - R^2 s^2 + r^2 (26 R^2 - 2 s^2) + r (16 R^3 - 3 R s^2)}{(2 r + R)^2} \\
|X_4X_{20}|^2 &: 4 (2 r^2 + 8 r R + 9 R^2 - 2 s^2) \\
|X_4X_{21}|^2 &: \frac{4 (r + R)^2 (2 r^2 + 8 r R + 9 R^2 - 2 s^2)}{(2 r + 3 R)^2} \\
|X_4X_{31}|^2 &: \frac{15 r^6 + 120 r^5 R + 4 R^2 s^4 - s^6 + r^4 (332 R^2 - 35 s^2) + 16 r R s^2 (-3 R^2 + s^2) + 8 r^3 (46 R^3 - 15 R s^2) + r^2 (144 R^4 - 128 R^2 s^2 + 13 s^4)}{(-3 r^2 - 6 r R + s^2)^2} \\
|X_4X_{32}|^2 &: \frac{(r^{10} + 20 r^9 R + r^8 (164 R^2 - 21 s^2) - s^8 (-4 R^2 + s^2) + 16 r^7 (44 R^3 - 17 R s^2) + 2 r^6 (832 R^4 - 662 R^2 s^2 + 53 s^4) + 8 r^5 (256 R^5 - 372 R^3 s^2 + 87 R s^4) + 2 r^4 (512 R^6 - 1504 R^4 s^2 + 768 R^2 s^4 - 53 s^6) - 16 r^3 (64 R^5 s^2 - 82 R^3 s^4 + 17 R s^6) + r^2 (384 R^4 s^4 - 236 R^2 s^6 + 21 s^8) + r (-64 R^3 s^6 + 20 R s^8))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2} \\
|X_4X_{35}|^2 &: \frac{8 r^4 + 42 r^3 R + 4 R^4 - R^2 s^2 + r^2 (67 R^2 - 8 s^2) + r (28 R^3 - 6 R s^2)}{(2 r + R)^2} \\
|X_4X_{36}|^2 &: \frac{4 r^3 + 13 r^2 R + 12 r R^2 - 4 R^3 - 4 r s^2 + R s^2}{2 r - R} \\
|X_4X_{37}|^2 &: \frac{r^6 + 12 r^5 R + 4 R^2 s^4 - s^6 + 16 r^3 R (6 R^2 + s^2) + r^4 (52 R^2 + s^2) + r^2 (64 R^4 + 44 R^2 s^2 - s^4) + 4 r (8 R^3 s^2 - R s^4)}{(r^2 + 4 r R + s^2)^2} \\
|X_4X_{38}|^2 &: - \frac{r^6 + 16 r^5 R - 4 R^2 s^4 + s^6 + r^4 (68 R^2 + 3 s^2) + 8 r^3 (14 R^3 - 3 R s^2) + r^2 (-16 R^4 - 16 R^2 s^2 + 3 s^4) + 8 r (2 R^3 s^2 - R s^4)}{(r^2 - 2 r R + s^2)^2} \\
|X_4X_{39}|^2 &: \frac{(r^{10} + 20 r^9 R - s^8 (-4 R^2 + s^2) + 16 r^7 R (44 R^2 + s^2) + r^8 (164 R^2 + 3 s^2) + 2 r^6 (832 R^4 - 38 R^2 s^2 + s^4) + 8 r^5 (256 R^5 - 84 R^3 s^2 - R s^4) + 2 r^4 (512 R^6 - 736 R^4 s^2 + 96 R^2 s^4 - s^6) - 16 r^3 (64 R^5 s^2 - 34 R^3 s^4 - R s^6) + r^2 (384 R^4 s^4 - 140 R^2 s^6 - 3 s^8) + r (-64 R^3 s^6 + 20 R s^8))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_4X_{40}|^2 &: r^2 + 8 r R + 16 R^2 - 3 s^2 \\
|X_4X_{41}|^2 &: \frac{(r^8 + 20 r^7 R + 16 R^4 s^4 - 4 R^2 s^6 + r^6 (164 R^2 - 13 s^2) + 32 r^5 (22 R^3 - 5 R s^2) - 16 r R s^2 (16 R^4 - 9 R^2 s^2 + s^4) + r^4 (1664 R^4 - 724 R^2 s^2 + 35 s^4) + 4 r^3 (512 R^5 - 364 R^3 s^2 + 47 R s^4) + r^2 (1024 R^6 - 1216 R^4 s^2 + 308 R^2 s^4 - 15 s^6))}{(r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2} \\
|X_4X_{42}|^2 &: \frac{3 r^6 + 8 r^5 R + 4 R^2 s^4 - s^6 + 5 r^4 (-4 R^2 + s^2) + 16 r^3 R (-3 R^2 + s^2) + 8 r R s^2 (-2 R^2 + s^2) + r^2 (16 R^4 - 16 R^2 s^2 + s^4)}{(r^2 - 2 r R + s^2)^2} \\
|X_4X_{43}|^2 &: \frac{3 r^6 - 12 r^5 R + 4 R^2 s^4 - s^6 + 8 r^3 R (8 R^2 + s^2) + r^4 (-60 R^2 + 5 s^2) + r^2 (256 R^4 - 120 R^2 s^2 + s^4) + r (-64 R^3 s^2 + 20 R s^4)}{(r^2 - 8 r R + s^2)^2} \\
|X_4X_{44}|^2 &: \frac{9 r^6 + 108 r^5 R + 4 R^2 s^4 - s^6 + 39 r^4 (12 R^2 - s^2) + 96 r^3 (9 R^3 - 2 R s^2) + 3 r^2 (192 R^4 - 92 R^2 s^2 + 5 s^4) + r (-96 R^3 s^2 + 28 R s^4)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_4X_{45}|^2 &: \frac{9 r^6 + 108 r^5 R + 4 R^2 s^4 - s^6 + 3 r^4 (156 R^2 - 5 s^2) + 24 r^3 (36 R^3 - R s^2) + r^2 (576 R^4 + 60 R^2 s^2 - 9 s^4) + 4 r (24 R^3 s^2 - 5 R s^4)}{(3 r^2 + 12 r R + s^2)^2} \\
|X_4X_{46}|^2 &: \frac{r^4 + 4 r^3 R + 4 R^4 - R^2 s^2 + 4 r R (-3 R^2 + s^2) - r^2 (R^2 + 3 s^2)}{(r - R)^2} \\
|X_4X_{55}|^2 &: \frac{2 r^4 + 13 r^3 R + 4 R^4 - R^2 s^2 + r^2 (26 R^2 - 2 s^2) + r (16 R^3 - 3 R s^2)}{(r + R)^2} \\
|X_4X_{56}|^2 &: \frac{(2 r - R) (r^3 + 2 r^2 R - 4 R^3 - r s^2 + R s^2)}{(r - R)^2} \\
|X_4X_{57}|^2 &: \frac{r^4 + 16 R^4 - 4 R^2 s^2 + 8 r R (-2 R^2 + s^2) - 3 r^2 (4 R^2 + s^2)}{(r - 2 R)^2} \\
|X_4X_{58}|^2 &: \frac{15 r^6 + 92 r^5 R + 4 R^2 s^4 - s^6 + r^4 (208 R^2 - 35 s^2) + 8 r^3 (24 R^3 - 11 R s^2) + r^2 (64 R^4 - 92 R^2 s^2 + 13 s^4) - 4 r (8 R^3 s^2 - 3 R s^4)}{(-3 r^2 - 4 r R + s^2)^2} \\
|X_4X_{63}|^2 &: \frac{r^4 + 6 r^3 R + 4 R^4 + 3 r^2 (4 R^2 - s^2) + r (8 R^3 - 2 R s^2)}{(r + R)^2}
\end{aligned}$$

$$\begin{aligned}
|X_4 X_{65}|^2 &: -\frac{r^3+2r^2R-4R^3-rs^2+Rs^2}{R} \\
|X_4 X_{69}|^2 &: \frac{4R^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}{(r^2+4rR-s^2)^2} \\
|X_4 X_{72}|^2 &: -\frac{(2r-R)(r+2R)^2}{R} \\
|X_4 X_{75}|^2 &: \frac{4R(r^4R+R^5+4r^3(2R^2+s^2)+2r^2(8R^3+3Rs^2)+r(8R^2s^2-4s^4))}{(r^2+4rR+s^2)^2} \\
|X_4 X_{76}|^2 &: \frac{4R^2(r^2+4rR-s^2)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}{(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_4 X_{78}|^2 &: \frac{3r^4+6r^3R+4R^4+2rR(-8R^2+s^2)-r^2(8R^2+s^2)}{(r-R)^2} \\
|X_4 X_{79}|^2 &: \frac{R(-2r^3-5r^2R+36R^3-9Rs^2+6r(2R^2+s^2))}{(2r+3R)^2} \\
|X_4 X_{80}|^2 &: \frac{R(-3r^2-4rR-4R^2+s^2)}{2r-R} \\
|X_4 X_{81}|^2 &: \frac{r^6+6r^5R+4R^2s^4-s^6+r^4(12R^2-7s^2)+4r^3(2R^3-5Rs^2)+r^2(4R^4-28R^2s^2+7s^4)+r(-8R^3s^2+6Rs^4)}{(r^2+rR-s^2)^2} \\
|X_4 X_{83}|^2 &: \frac{4(r^2+4rR-s^2)^2(6r^6+72r^5R+25R^2s^4-6s^6+r^4(313R^2-26s^2)+8r^3(73R^3-22Rs^2)+r^2(400R^4-350R^2s^2+26s^4)-8r(25R^3s^2-9Rs^4))}{(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2} \\
|X_4 X_{85}|^2 &: \frac{4R(r^4R+256R^5-32R^3s^2-7Rs^4+4r^3(4R^2+s^2)+6r^2(16R^3+5Rs^2)+4r(64R^4+12R^2s^2-s^4))}{(r^2+8rR+16R^2+s^2)^2} \\
|X_4 X_{86}|^2 &: \frac{4(25R^2s^4-6s^6+r^4(R^2+2s^2)+8r^3(R^3+2Rs^2)+2r^2(8R^4+15R^2s^2+6s^4)+8r(5R^3s^2+2Rs^4))}{(r^2+4rR+5s^2)^2} \\
|X_4 X_{88}|^2 &: \frac{9r^6-54r^5R+4R^2s^4-s^6-15r^4(12R^2+s^2)+12r^3(18R^3+13Rs^2)+r^2(900R^4-300R^2s^2-9s^4)+r(-120R^3s^2+34Rs^4)}{(3r^2-15rR+s^2)^2} \\
|X_4 X_{89}|^2 &: \frac{4(9r^6+27r^5R+4R^2s^4-s^6-12r^3R(9R^2+s^2)+rRs^2(12R^2+s^2)-3r^4(6R^2+13s^2)+3r^2(3R^4-14R^2s^2+5s^4))}{(-6r^2+3rR+2s^2)^2} \\
|X_4 X_{99}|^2 &: \frac{4(-8rR^3s^2+R^2s^4+r^4(R^2-8s^2)+8r^3(R^3-4Rs^2)+2r^2(8R^4-25R^2s^2+4s^4))}{r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2)} \\
|X_4 X_{141}|^2 &: \frac{3r^6+36r^5R+16R^2s^4-3s^6+5r^4(32R^2-s^2)+8r^3(40R^3-7Rs^2)+r^2(256R^4-188R^2s^2+5s^4)-4r(32R^3s^2-9Rs^4)}{4(r^2+4rR-s^2)^2} \\
|X_4 X_{142}|^2 &: \frac{3r^4+36r^3R+256R^4-60R^2s^2+r^2(160R^2-s^2)+16r(20R^3-Rs^2)}{4(r+4R)^2} \\
|X_4 X_{145}|^2 &: 4(-2r+R)^2 \\
|X_4 X_{190}|^2 &: \frac{4(2r^6+24r^5R-24rR^3s^2+R^2s^4+3r^4(35R^2-4s^2)+8r^3(25R^3-3Rs^2)+2r^2(72R^4-9R^2s^2+s^4))}{(-3r^2-12rR+s^2)^2} \\
|X_4 X_{192}|^2 &: \frac{4R(r^4R+R^5+8r^3(R^2-s^2)+8r^3(R^2+3s^2)+2r^2(8R^3+25Rs^2))}{(r^2+4rR+s^2)^2} \\
|X_4 X_{194}|^2 &: \frac{4R^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}{(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_4 X_{200}|^2 &: \frac{3r^4+8r^3R+16R^4-r^2(20R^2+s^2)+r(-48R^3+4Rs^2)}{(r-2R)^2} \\
|X_4 X_{210}|^2 &: -\frac{3r^3+10r^2R-8rR^2-36R^3+r^2s^2+5Rs^2}{9R} \\
|X_4 X_{213}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2} \\
& (r^{10}+20r^9R+r^8(164R^2-5s^2)-s^8(-4R^2+s^2)+16r^7(44R^3-3Rs^2)+ \\
& 2r^6(832R^4-62R^2s^2-3s^4)+16r^5(128R^5+4R^3s^2-5Rs^4)+ \\
& 32r^3(16R^5s^2-9R^3s^4)+2r^4(512R^6+288R^4s^2-128R^2s^4+3s^6)+ \\
& r^2(-64R^4s^4-28R^2s^6+5s^8)-4r(8R^3s^6-3Rs^8)) \\
|X_4 X_{238}|^2 &: \frac{15r^6+164r^5R+4R^2s^4-s^6+r^4(628R^2-35s^2)+32r^3(31R^3-6Rs^2)+r^2(576R^4-280R^2s^2+13s^4)+r(-96R^3s^2+28Rs^4)}{(-3r^2-12rR+s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_4 X_{239}|^2 &: \frac{4(2r^6 + 24r^5 R + R^2 s^4 + r^4(105R^2 - 8s^2) + 4rR s^2(-6R^2 + s^2) + 4r^3(50R^3 - 13R s^2) + 2r^2(72R^4 - 43R^2 s^2 + 3s^4))}{(-3r^2 - 12rR + s^2)^2} \\
|X_4 X_{244}|^2 &: \frac{-r^6 - 24r^5 R + 4R^2 s^4 - s^6 + r^4(76R^2 - 3s^2) + 8r^3(62R^3 + 5R s^2) + r^2(784R^4 - 288R^2 s^2 - 3s^4) - 16r(7R^3 s^2 - 2R s^4)}{(r^2 - 14rR + s^2)^2} \\
|X_4 X_{304}|^2 &: \frac{1}{(r^4 + 8r^3 R + 16r^2 R^2 + 8rR s^2 - s^4)^2} \\
&4R(r^8 R - 16rR^2 s^6 + R s^8 + 8r^7(2R^2 + s^2) + r^6(96R^3 + 76R s^2) + 16r^5(16R^4 + 15R^2 s^2 - s^4) + \\
&r^4(256R^5 + 320R^3 s^2 - 42R s^4) + 8r^3(32R^4 s^2 - 6R^2 s^4 + s^6) + 4r^2(8R^3 s^4 - R s^6)) \\
|X_4 X_{306}|^2 &: \frac{4(2r^6 + 16r^5 R - 12rR^3 s^2 + R^2 s^4 + r^4(49R^2 - s^2) + r^3(68R^3 - 8R s^2) + r^2(36R^4 - 18R^2 s^2 + s^4))}{(-3r^2 - 6rR + s^2)^2} \\
|X_4 X_{312}|^2 &: \frac{4R(-4r^5 + r^4 R - 16rR^2 s^2 + R s^4 + 4r^3(12R^2 + s^2) + 2r^2(32R^3 - 5R s^2))}{(r^2 - 8rR + s^2)^2} \\
|X_4 X_{319}|^2 &: \frac{4R(r^4 R + 9R s^4 + r^3(8R^2 - 4s^2) + 2r^2(8R^3 - 17R s^2) - 12r(2R^2 s^2 + s^4))}{(r^2 + 4rR - 3s^2)^2} \\
|X_4 X_{320}|^2 &: \frac{4R(9r^4 R + R s^4 + 4r s^2(-6R^2 + s^2) + 12r^3(6R^2 + s^2) + 6r^2(24R^3 - 11R s^2))}{(-3r^2 - 12rR + s^2)^2} \\
|X_4 X_{321}|^2 &: -\frac{4(2r - R)R(r^2 + 2rR - s^2)^2}{(r^2 - 2rR + s^2)^2} \\
|X_4 X_{345}|^2 &: \frac{4(6r^6 + 44r^5 R - 16rR^3 s^2 + R^2 s^4 + r^4(121R^2 - 8s^2) + 4r^3(36R^3 - 5R s^2) + 2r^2(32R^4 - 11R^2 s^2 + s^4))}{(-5r^2 - 8rR + s^2)^2} \\
|X_4 X_{346}|^2 &: \frac{4(r^6 + 12r^5 R - 16rR^3 s^2 + R^2 s^4 + r^4(52R^2 - 2s^2) + r^2(-8R^2 + s^2)^2 + r^3(96R^3 - 8R s^2))}{(-2r^2 - 8rR + s^2)^2} \\
|X_4 X_{350}|^2 &: \frac{(4R(r^8 R + R s^8 + 4r^7(4R^2 - s^2) + 4r s^6(-8R^2 + s^2) + 8r^6(12R^3 - 7R s^2) + 4r^5(64R^4 - 72R^2 s^2 - s^4) + 2r^4(128R^5 - 320R^3 s^2 + 55R s^4) + r^3(-512R^4 s^2 + 432R^2 s^4 + 4s^6) + 8r^2(36R^3 s^4 - 11R s^6)) + (r^4 + 8r^3 R - 16rR s^2 + s^4 + 2r^2(8R^2 + s^2))^2}{(r^4 + 8r^3 R - 16rR s^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_5 X_6|^2 &: \frac{-8rR^3 s^2 + R^2 s^4 + r^4(R^2 - 8s^2) + 8r^3(R^3 - 4R s^2) + 2r^2(8R^4 - 25R^2 s^2 + 4s^4)}{4(r^2 + 4rR - s^2)^2} \\
|X_5 X_7|^2 &: -\frac{2r^4 + 24r^3 R - 16R^4 + r^2(95R^2 + 6s^2) + 24r(5R^3 - R s^2)}{4(r + 4R)^2} \\
|X_5 X_8|^2 &: \frac{1}{4}(6r^2 - 32rR + R^2 + 2s^2) \\
|X_5 X_9|^2 &: \frac{16R^4 + r^2(R^2 - 4s^2) + r(8R^3 - 4R s^2)}{4(r + 4R)^2} \\
|X_5 X_{10}|^2 &: \frac{1}{4}R(-2r + R) \\
|X_5 X_{11}|^2 &: \frac{R^2}{4} \\
|X_5 X_{12}|^2 &: \frac{R^2(-2r + R)^2}{4(2r + R)^2} \\
|X_5 X_{20}|^2 &: \frac{9}{4}(2r^2 + 8rR + 9R^2 - 2s^2) \\
|X_5 X_{21}|^2 &: \frac{(2r + R)^2(2r^2 + 8rR + 9R^2 - 2s^2)}{4(2r + 3R)^2} \\
|X_5 X_{31}|^2 &: \frac{12r^6 + 96r^5 R - 12rR^3 s^2 + R^2 s^4 + r^4(233R^2 - 40s^2) + 4r^3(41R^3 - 24R s^2) + 6r^2(6R^4 - 9R^2 s^2 + 2s^4)}{4(-3r^2 - 6rR + s^2)^2} \\
|X_5 X_{32}|^2 &: \frac{(-16rR^3 s^6 + R^2 s^8 + r^8(R^2 - 16s^2) + 16r^7(R^3 - 12R s^2) + 4r^6(24R^4 - 211R^2 s^2 + 28s^4) + 16r^5(16R^5 - 103R^3 s^2 + 40R s^4) + 2r^4(128R^6 - 672R^4 s^2 + 531R^2 s^4 - 56s^6) - 16r^3(16R^5 s^2 - 39R^3 s^4 + 12R s^6) + 4r^2(24R^4 s^4 - 19R^2 s^6 + 4s^8))}{(4(r^4 + 8r^3 R - 8rR s^2 + s^4 + 2r^2(8R^2 - 3s^2))^2)} \\
|X_5 X_{35}|^2 &: \frac{8r^4 + 44r^3 R + R^4 + 8r^2(8R^2 - s^2) + r(8R^3 - 4R s^2)}{4(2r + R)^2} \\
|X_5 X_{36}|^2 &: \frac{4r^3 + 12r^2 R + 14rR^2 - R^3 - 4r s^2}{8r - 4R}
\end{aligned}$$

$$\begin{aligned}
|X_5X_{37}|^2 &: \frac{R(r^4 R + R s^4 + 8 r s^2 (R^2 - s^2) + 8 r^3 (R^2 + 3 s^2) + 2 r^2 (8 R^3 + 25 R s^2))}{4 (r^2 + 4 r R + s^2)^2} \\
|X_5X_{38}|^2 &: \frac{-4 r^6 - 56 r^5 R + R^2 s^4 - 4 r R s^2 (R^2 + 2 s^2) - r^4 (271 R^2 + 8 s^2) + r^3 (-452 R^3 + 64 R s^2) + 2 r^2 (2 R^4 + 65 R^2 s^2 - 2 s^4)}{4 (r^2 - 2 r R + s^2)^2} \\
|X_5X_{39}|^2 &: \frac{R^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{4 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_5X_{40}|^2 &: r R + \frac{25 R^2}{4} - s^2 \\
|X_5X_{41}|^2 &: \frac{(4 R^4 s^4 + r^6 (R^2 - 12 s^2) + 8 r^5 (2 R^3 - 17 R s^2) + r^4 (96 R^4 - 550 R^2 s^2 + 40 s^4) + 4 r^3 (64 R^5 - 237 R^3 s^2 + 44 R s^4) + r^2 (256 R^6 - 640 R^4 s^2 + 185 R^2 s^4 - 12 s^6) + r (-64 R^5 s^2 + 44 R^3 s^4 - 8 R s^6))}{4 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2} \\
|X_5X_{42}|^2 &: \frac{4 r^6 + 16 r^5 R - 4 r R^3 s^2 + R^2 s^4 + r^4 (-31 R^2 + 8 s^2) - 4 r^3 (33 R^3 - 4 R s^2) + r^2 (4 R^4 - 46 R^2 s^2 + 4 s^4)}{4 (r^2 - 2 r R + s^2)^2} \\
|X_5X_{43}|^2 &: \frac{4 r^6 + 4 r^5 R + R^2 s^4 + 8 r^3 R (-18 R^2 + s^2) + 4 r R s^2 (-4 R^2 + s^2) + r^4 (-79 R^2 + 8 s^2) + r^2 (64 R^4 - 78 R^2 s^2 + 4 s^4)}{4 (r^2 - 8 r R + s^2)^2} \\
|X_5X_{44}|^2 &: \frac{R^2 s^4 + r^4 (9 R^2 - 48 s^2) + 8 r R s^2 (-3 R^2 + s^2) + 24 r^3 (3 R^3 - 5 R s^2) + 2 r^2 (72 R^4 - 75 R^2 s^2 + 8 s^4)}{4 (-3 r^2 - 12 r R + s^2)^2} \\
|X_5X_{45}|^2 &: \frac{R^2 s^4 + 3 r^4 (3 R^2 - 8 s^2) + 24 r^3 (3 R^3 + 2 R s^2) + 2 r^2 (72 R^4 + 75 R^2 s^2 - 4 s^4) + 8 r (3 R^3 s^2 - 2 R s^4)}{4 (3 r^2 + 12 r R + s^2)^2} \\
|X_5X_{46}|^2 &: \frac{R^4 - r^2 (3 R^2 + 4 s^2) + r (-14 R^3 + 4 R s^2)}{4 (r - R)^2} \\
|X_5X_{55}|^2 &: \frac{2 r^4 + 14 r^3 R + R^4 + r^2 (25 R^2 - 2 s^2) + 2 r (R^3 - R s^2)}{4 (r + R)^2} \\
|X_5X_{56}|^2 &: \frac{2 r^4 + 2 r^3 R + R^4 + r^2 (R^2 - 2 s^2) + 2 r R (-5 R^2 + s^2)}{4 (r - R)^2} \\
|X_5X_{57}|^2 &: \frac{-4 r^3 R + 4 R^4 - r^2 (23 R^2 + 4 s^2) + r (-36 R^3 + 8 R s^2)}{4 (r - 2 R)^2} \\
|X_5X_{58}|^2 &: \frac{12 r^6 + 64 r^5 R - 8 r R^3 s^2 + R^2 s^4 + r^4 (113 R^2 - 40 s^2) + 8 r^3 (7 R^3 - 8 R s^2) + 2 r^2 (8 R^4 - 31 R^2 s^2 + 6 s^4)}{4 (-3 r^2 - 4 r R + s^2)^2} \\
|X_5X_{63}|^2 &: \frac{-2 r^3 R + R^4 + 2 R^2 s^2 - r^2 (13 R^2 + 4 s^2) + r (-22 R^3 + 2 R s^2)}{4 (r + R)^2} \\
|X_5X_{65}|^2 &: \frac{-6 r^3 - 12 r^2 R - 8 r R^2 + R^3 + 2 r s^2}{4 R} \\
|X_5X_{69}|^2 &: \frac{-2 r^6 + 24 r^5 R - s^4 (R^2 + 2 s^2) + 5 r^4 (19 R^2 + 2 s^2) + 8 r R s^2 (R^2 + 3 s^2) + 8 r^3 (15 R^3 + 2 R s^2) - 2 r^2 (8 R^4 - 49 R^2 s^2 + 5 s^4)}{4 (r^2 + 4 r R - s^2)^2} \\
|X_5X_{72}|^2 &: \frac{-6 r^3 - 26 r^2 R - 28 r R^2 + R^3 + 2 r s^2 + 2 R s^2}{4 R} \\
|X_5X_{75}|^2 &: \frac{-2 r^6 - 24 r^5 R + 8 r R s^2 (R^2 - 5 s^2) + s^4 (R^2 + 2 s^2) - r^4 (95 R^2 + 2 s^2) - 8 r^3 (15 R^3 - 8 R s^2) + 2 r^2 (8 R^4 + 49 R^2 s^2 + s^4)}{4 (r^2 + 4 r R + s^2)^2} \\
|X_5X_{76}|^2 &: - \left((2 r^{10} + 40 r^9 R - s^8 (R^2 + 2 s^2) + r^8 (319 R^2 + 6 s^2) + 16 r^7 (79 R^3 + 2 R s^2) + 4 r^6 (616 R^4 + 7 R^2 s^2 + s^4) + 16 r^5 (112 R^5 + 15 R^3 s^2 - R s^4) - 2 r^4 (128 R^6 - 544 R^4 s^2 + 195 R^2 s^4 + 2 s^6) + 16 r^3 (16 R^5 s^2 - 31 R^3 s^4 + 2 R s^6) - 2 r^2 (48 R^4 s^4 + 50 R^2 s^6 + 3 s^8) + 8 r (2 R^3 s^6 + 5 R s^8)) \right) / \left(4 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \\
|X_5X_{78}|^2 &: \frac{4 r^4 + 6 r^3 R - 21 r^2 R^2 - 34 r R^3 + R^4 + 2 r R s^2 + 2 R^2 s^2}{4 (r - R)^2} \\
|X_5X_{79}|^2 &: \frac{-8 r^3 R + 9 R^4 + 24 r R (-4 R^2 + s^2) - 8 r^2 (7 R^2 + 2 s^2)}{4 (2 r + 3 R)^2} \\
|X_5X_{80}|^2 &: \frac{1}{4} (2 r + R)^2 \\
|X_5X_{81}|^2 &: \frac{-2 r^5 R + R^2 s^4 - 2 r R s^2 (R^2 + s^2) - r^4 (13 R^2 + 8 s^2) - 2 r^3 (11 R^3 + 10 R s^2) + r^2 (R^4 - 36 R^2 s^2 + 8 s^4)}{4 (r^2 + r R - s^2)^2}
\end{aligned}$$

$$|X_5X_{83}|^2: \quad (6r^{10} + 120r^9R + 5r^8(197R^2 - 22s^2) + s^8(25R^2 - 6s^2) + 80r^7(53R^3 - 18Rs^2) + 4r^6(2520R^4 - 1783R^2s^2 + 99s^4) + 16r^5(784R^5 - 1031R^3s^2 + 189Rs^4) + 2r^4(3200R^6 - 8736R^4s^2 + 3819R^2s^4 - 198s^6) - 16r^3(400R^5s^2 - 471R^3s^4 + 90Rs^6) + 2r^2(1200R^4s^4 - 686R^2s^6 + 55s^8) - 40r(10R^3s^6 - 3Rs^8)) / (4(5r^4 + 40r^3R - 40rRs^2 + 5s^4 + r^2(80R^2 - 6s^2))^2)$$

$$|X_5X_{85}|^2: \quad -\frac{1}{4(r^2+8rR+16R^2+s^2)^2} (2r^6 + 40r^5R - 256R^6 - 32R^4s^2 + 31R^2s^4 - 2s^6 + r^4(319R^2 + 2s^2) + 16r^3(79R^3 - 2Rs^2) + r^2(2464R^4 - 354R^2s^2 - 2s^4) + 56rR(32R^4 - 14R^2s^2 + s^4))$$

$$|X_5X_{86}|^2: \quad -\frac{2r^6+24r^5R-25R^2s^4+6s^6-8rRs^2(5R^2+s^2)+5r^4(19R^2+2s^2)+8r^3(15R^3+2Rs^2)-2r^2(8R^4-43R^2s^2+25s^4)}{4(r^2+4rR+5s^2)^2}$$

$$|X_5X_{88}|^2: \quad \frac{-54r^5R+R^2s^4-3r^4(87R^2+8s^2)-6r^3(51R^3-26Rs^2)+r^2(225R^4-12R^2s^2-8s^4)+r(-30R^3s^2+2Rs^4)}{4(3r^2-15rR+s^2)^2}$$

$$|X_5X_{89}|^2: \quad \frac{-108r^5R+4R^2s^4-6r^4(111R^2+32s^2)-12r^3(93R^3+4Rs^2)+r^2(9R^4-330R^2s^2+64s^4)+4r(3R^3s^2-Rs^4)}{4(-6r^2+3rR+2s^2)^2}$$

$$|X_5X_{99}|^2: \quad -\frac{2r^6+24r^5R-s^4(R^2+2s^2)+8rRs^2(R^2+3s^2)+r^4(95R^2+34s^2)+8r^3(15R^3+14Rs^2)-2r^2(8R^4-103R^2s^2+17s^4)}{4(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}$$

$$|X_5X_{141}|^2: \quad \frac{R^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}{4(r^2+4rR-s^2)^2}$$

$$|X_5X_{142}|^2: \quad \frac{R(r^2R+16R^3-4Rs^2+2r(4R^2+s^2))}{4(r+4R)^2}$$

$$|X_5X_{145}|^2: \quad \frac{1}{4} (42r^2 - 104rR + R^2 + 6s^2)$$

$$|X_5X_{190}|^2: \quad -\frac{10r^6+120r^5R-s^4(R^2+2s^2)+r^4(471R^2+82s^2)+8r^3(71R^3-26Rs^2)-2r^2(72R^4+205R^2s^2-3s^4)+8r(3R^3s^2+7Rs^4)}{4(-3r^2-12rR+s^2)^2}$$

$$|X_5X_{192}|^2: \quad \frac{-6r^6-72r^5R+8rRs^2(R^2-17s^2)+s^4(R^2+6s^2)-r^4(287R^2+6s^2)-8r^3(47R^3-38Rs^2)+2r^2(8R^4+273R^2s^2+3s^4)}{4(r^2+4rR+s^2)^2}$$

$$|X_5X_{194}|^2: \quad -\left((6r^{10} + 120r^9R - s^8(R^2 + 6s^2) + r^8(959R^2 + 18s^2) + 16r^7(239R^3 + 6Rs^2) + 4r^6(1896R^4 + 31R^2s^2 + 3s^4) + 16r^5(368R^5 + 63R^3s^2 - 3Rs^4) - 2r^4(128R^6 - 1824R^4s^2 + 1059R^2s^4 + 6s^6) + 16r^3(16R^5s^2 - 111R^3s^4 + 6Rs^6) - 2r^2(48R^4s^4 + 130R^2s^6 + 9s^8) + 8r(2R^3s^6 + 15Rs^8)) / (4(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2) \right)$$

$$|X_5X_{200}|^2: \quad \frac{4r^4+16r^3R-31r^2R^2+4rR(-33R^2+s^2)+4R^2(R^2+2s^2)}{4(r-2R)^2}$$

$$|X_5X_{210}|^2: \quad \frac{-6r^3-40r^2R-64rR^2+9R^3+2rs^2+4Rs^2}{36R}$$

$$|X_5X_{213}|^2: \quad (-8rR^3s^6 + R^2s^8 + r^8(R^2 - 8s^2) + 16r^7(R^3 - 5Rs^2) + 8r^6(12R^4 - 32R^2s^2 - s^4) + 8r^5(32R^5 - 31R^3s^2 - 12Rs^4) + r^4(256R^6 + 64R^4s^2 - 226R^2s^4 + 8s^6) + 16r^3(8R^5s^2 - 13R^3s^4 - Rs^6) - 8r^2(2R^4s^4 + 4R^2s^6 - s^8)) / (4(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2)$$

$$|X_5X_{238}|^2: \quad \frac{12r^6+116r^5R+R^2s^4+r^4(361R^2-40s^2)+4rRs^2(-6R^2+s^2)+8r^3(49R^3-17Rs^2)+6r^2(24R^4-17R^2s^2+2s^4)}{4(-3r^2-12rR+s^2)^2}$$

$$|X_5X_{239}|^2: \quad \frac{2r^6+24r^5R+r^4(105R^2-22s^2)+s^4(R^2+6s^2)+8r^3(25R^3-16Rs^2)+2r^2(72R^4-83R^2s^2+23s^4)-8r(3R^3s^2+11Rs^4)}{4(-3r^2-12rR+s^2)^2}$$

$$|X_5X_{244}|^2: \quad \frac{-4r^6-48r^5R-28rR^3s^2+R^2s^4-r^4(191R^2+8s^2)+r^3(-284R^3+80Rs^2)+2r^2(98R^4+9R^2s^2-2s^4)}{4(r^2-14rR+s^2)^2}$$

$$\begin{aligned}
|X_5 X_{304}|^2 &: \quad (-2 r^{10} - 40 r^9 R + r^8 (-319 R^2 + 2 s^2) + \\
&\quad s^8 (R^2 + 2 s^2) - 16 r^7 (79 R^3 - 6 R s^2) + 4 r^6 (-616 R^4 + 184 R^2 s^2 + s^4) - \\
&\quad 16 r^5 (112 R^5 - 113 R^3 s^2 + 11 R s^4) + 2 r^4 (128 R^6 + 576 R^4 s^2 - 289 R^2 s^4 - 2 s^6) + \\
&\quad 16 r^3 (16 R^5 s^2 - 33 R^3 s^4 + 10 R s^6) + 2 r^2 (16 R^4 s^4 + 80 R^2 s^6 - s^8) - 8 r (2 R^3 s^6 + 5 R s^8)) / \\
&\quad (4 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2) \\
|X_5 X_{306}|^2 &: \quad \frac{2 r^6 + 16 r^5 R + s^4 (R^2 + 2 s^2) + r^4 (49 R^2 + 6 s^2) + 4 r^3 (17 R^3 + 4 R s^2) + 2 r^2 (18 R^4 + R^2 s^2 + 3 s^4) - 4 r (3 R^3 s^2 + 8 R s^4)}{4 (r^2 - 6 r R + s^2)^2} \\
|X_5 X_{312}|^2 &: \quad - \frac{2 r^6 + 24 r^5 R - s^4 (R^2 + 2 s^2) + r^4 (63 R^2 + 2 s^2) + 16 r^3 (R^3 - 4 R s^2) - 2 r^2 (32 R^4 + 65 R^2 s^2 + s^4) + 8 r (2 R^3 s^2 + 5 R s^4)}{4 (r^2 - 8 r R + s^2)^2} \\
|X_5 X_{319}|^2 &: \quad - \frac{2 r^6 + 24 r^5 R - 9 s^4 (R^2 + 2 s^2) + 24 r R s^2 (R^2 + 11 s^2) + r^4 (95 R^2 + 18 s^2) + 24 r^3 (5 R^3 + 4 R s^2) - 2 r^2 (8 R^4 - 147 R^2 s^2 + 33 s^4)}{4 (r^2 + 4 r R - 3 s^2)^2} \\
|X_5 X_{320}|^2 &: \quad - \frac{18 r^6 + 216 r^5 R + 8 r R s^2 (3 R^2 + s^2) - s^4 (R^2 + 2 s^2) + r^4 (855 R^2 + 66 s^2) + 24 r^3 (45 R^3 - 4 R s^2) - 6 r^2 (24 R^4 - 49 R^2 s^2 + 3 s^4)}{4 (-3 r^2 - 12 r R + s^2)^2} \\
|X_5 X_{321}|^2 &: \quad - \frac{2 r^6 - 24 r^5 R + s^4 (R^2 + 2 s^2) - r^4 (87 R^2 + 2 s^2) - 4 r R s^2 (R^2 + 10 s^2) + r^3 (-100 R^3 + 64 R s^2) + 2 r^2 (2 R^4 + 61 R^2 s^2 + s^4)}{4 (r^2 - 2 r R + s^2)^2} \\
|X_5 X_{345}|^2 &: \quad \frac{6 r^6 + 40 r^5 R + r^4 (89 R^2 - 10 s^2) + s^4 (R^2 + 2 s^2) + 16 r^3 (5 R^3 + 4 R s^2) + 2 r^2 (32 R^4 + 59 R^2 s^2 + s^4) - 8 r (2 R^3 s^2 + 5 R s^4)}{4 (-5 r^2 - 8 r R + s^2)^2} \\
|X_5 X_{346}|^2 &: \quad \frac{4 r^4 (R^2 - s^2) + s^4 (R^2 + 2 s^2) + 32 r^3 (R^3 + 2 R s^2) + 2 r^2 (32 R^4 + 62 R^2 s^2 + s^4) - 8 r (2 R^3 s^2 + 5 R s^4)}{4 (-2 r^2 - 8 r R + s^2)^2} \\
|X_5 X_{350}|^2 &: \quad - \left((2 r^{10} + 40 r^9 R + 16 r^7 R (79 R^2 + s^2) - s^8 (R^2 + 2 s^2) + \right. \\
&\quad \left. r^8 (319 R^2 + 6 s^2) + 4 r^6 (616 R^4 - 49 R^2 s^2 + s^4) - 16 r^3 R s^2 (-32 R^4 + 61 R^2 s^2 + s^4) + \right. \\
&\quad \left. 64 r^5 (28 R^5 - 12 R^3 s^2 - R s^4) - 2 r^4 (128 R^6 + 160 R^4 s^2 + 291 R^2 s^4 + 2 s^6) - \right. \\
&\quad \left. 2 r^2 (144 R^4 s^4 - 94 R^2 s^6 + 3 s^8) + 8 r (4 R^3 s^6 + 3 R s^8) \right) / \\
&\quad (4 (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \\
|X_6 X_7|^2 &: \quad - \frac{r^2 (r^6 + 20 r^5 R - 64 R^4 s^2 + 3 s^6 + 32 r^3 R (20 R^2 + s^2) + 5 r^4 (32 R^2 + s^2) + r^2 (1280 R^4 + 12 R^2 s^2 - 9 s^4) + 4 r (256 R^5 - 40 R^3 s^2 - 9 R s^4))}{(r + 4 R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_8|^2 &: \quad \frac{3 r^6 + 20 r^5 R - 20 r R s^4 + s^6 + r^4 (16 R^2 - 9 s^2) - 16 r^3 R (4 R^2 + s^2) + r^2 (68 R^2 s^2 + 5 s^4)}{(r^2 + 4 r R - s^2)^2} \\
|X_6 X_9|^2 &: \quad - \frac{4 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r + 4 R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{10}|^2 &: \quad \frac{r^6 + 8 r^5 R - 24 r^3 R s^2 + 7 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 - 9 s^2)}{4 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{11}|^2 &: \quad \frac{r^2 (r^4 R - 4 R^3 s^2 + R s^4 + 4 r^3 (3 R^2 - s^2) + 6 r^2 (8 R^3 - 3 R s^2) + 4 r (16 R^4 - 9 R^2 s^2 + s^4))}{(2 r - R) (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{12}|^2 &: \quad - \frac{r^2 (2 r^5 R - 4 R^4 s^2 - 3 R^2 s^4 + r^4 (21 R^2 + 8 s^2) + 4 r^3 (19 R^3 + 8 R s^2) + 2 r^2 (56 R^4 + 23 R^2 s^2 - 4 s^4) + r (64 R^5 + 36 R^3 s^2 - 2 R s^4))}{(2 r + R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{20}|^2 &: \quad \frac{3 r^6 + 36 r^5 R + 16 R^2 s^4 - 3 s^6 + 5 r^4 (32 R^2 - s^2) + 8 r^3 (40 R^3 - 7 R s^2) + r^2 (256 R^4 - 188 R^2 s^2 + 5 s^4) - 4 r (32 R^3 s^2 - 9 R s^4)}{(r^2 + 4 r R - s^2)^2} \\
|X_6 X_{21}|^2 &: \quad - \frac{R (2 r^7 + 21 r^6 R - R s^6 + 2 r^5 (38 R^2 + s^2) + 7 r^4 (16 R^3 + 7 R s^2) + 2 r^3 (32 R^4 + 52 R^2 s^2 - s^4) + r^2 (60 R^3 s^2 + 11 R s^4) + 2 r (6 R^2 s^4 - s^6))}{(2 r + 3 R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{31}|^2 &: \quad - \frac{4 r^4 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 - 3 s^4 + 2 r^2 (24 R^2 + 7 s^2) + 4 r (16 R^3 + 7 R s^2))}{(3 r^4 + 18 r^3 R - 10 r R s^2 + s^4 + 4 r^2 (6 R^2 - s^2))^2} \\
|X_6 X_{32}|^2 &: \quad \frac{16 r^4 R^2 s^4 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 - 7 s^2) + 8 r^3 (8 R^3 - 5 R s^2) + r^2 (-48 R^2 s^2 + 7 s^4))^2} \\
|X_6 X_{35}|^2 &: \quad - \frac{4 r^2 R^2 (r^3 R - s^2 (R^2 + 2 s^2) + 2 r^2 (4 R^2 + 7 s^2) + r (16 R^3 + 19 R s^2))}{(2 r + R)^2 (r^2 + 4 r R - s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_6 X_{36}|^2 &: \frac{4 r^2 R^2 (r^3 + 8 r^2 R + 16 r R^2 - 7 r s^2 - R s^2)}{(2 r - R) (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{37}|^2 &: - \frac{16 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^4 + 8 r^3 R + 16 r^2 R^2 - s^4)^2} \\
|X_6 X_{38}|^2 &: - \frac{1}{(r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2} \\
&\quad 4 r^2 R (2 r^7 + 33 r^6 R - 4 R s^6 + 2 r^5 (102 R^2 - 5 s^2) + 10 r^4 (56 R^3 - 11 R s^2) + \\
&\quad 2 r^3 (288 R^4 - 206 R^2 s^2 + 7 s^4) + r^2 (-420 R^3 s^2 + 93 R s^4) + r (88 R^2 s^4 - 6 s^6)) \\
|X_6 X_{39}|^2 &: \frac{16 r^4 R^2 s^4 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4))^2} \\
|X_6 X_{40}|^2 &: \frac{4 R (r^4 R + R s^4 + r^3 (8 R^2 + s^2) + r^2 (16 R^3 - R s^2) - r (8 R^2 s^2 + s^4))}{(r^2 + 4 r R - s^2)^2} \\
|X_6 X_{41}|^2 &: \frac{4 r^2 R^2 s^4 (3 r^4 + 20 r^3 R + 4 R^2 s^2 - s^4 + 2 r^2 (8 R^2 - 7 s^2) + r (-64 R^3 + 20 R s^2))}{(r^5 + 12 r^4 R + 2 R s^4 + r^3 (48 R^2 - 4 s^2) + 3 r s^2 (-8 R^2 + s^2) + r^2 (64 R^3 - 22 R s^2))^2} \\
|X_6 X_{42}|^2 &: - \frac{4 r^4 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 - 3 s^4 + 2 r^2 (24 R^2 + 7 s^2) + 4 r (16 R^3 + 7 R s^2))}{(r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2} \\
|X_6 X_{43}|^2 &: \frac{4 r^2 R (r^7 + 12 r^6 R + 22 r^2 R s^4 + R s^6 + r^5 (48 R^2 + s^2) + r^4 (64 R^3 - 31 R s^2) - r^3 (32 R^2 s^2 + s^4) - r (16 R^2 s^4 + s^6))}{(-r^4 + 4 r^3 R + 32 r^2 R^2 - 12 r R s^2 + s^4)^2} \\
|X_6 X_{44}|^2 &: - \frac{16 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2))^2} \\
|X_6 X_{45}|^2 &: - \frac{64 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(-3 r^4 - 24 r^3 R + 8 r R s^2 + s^4 + r^2 (-48 R^2 + 2 s^2))^2} \\
|X_6 X_{46}|^2 &: - \frac{4 r^2 R (-R^3 s^2 + r^3 (R^2 - s^2) + r^2 (8 R^3 - R s^2) + r (16 R^4 - 7 R^2 s^2 + s^4))}{(r - R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{55}|^2 &: - \frac{r^2 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 - 3 s^4 + 2 r^2 (24 R^2 + 7 s^2) + 4 r (16 R^3 + 7 R s^2))}{(r + R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{56}|^2 &: \frac{r^2 R^2 (3 r^4 + 20 r^3 R + 4 R^2 s^2 - s^4 + 2 r^2 (8 R^2 - 7 s^2) + r (-64 R^3 + 20 R s^2))}{(r - R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{57}|^2 &: - \frac{4 r^2 R (r^4 R - 4 R^3 s^2 + R s^4 + r^3 (12 R^2 - s^2) + r^2 (48 R^3 - 3 R s^2) + r (64 R^4 - 24 R^2 s^2 + s^4))}{(r - 2 R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{58}|^2 &: \frac{4 r^4 R^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(3 r^4 + 16 r^3 R - 8 r R s^2 + s^4 + 4 r^2 (4 R^2 - s^2))^2} \\
|X_6 X_{63}|^2 &: \frac{R (-r^6 R + R s^6 + 2 r^5 (-6 R^2 + s^2) + r^4 (-48 R^3 + 15 R s^2) - 4 r^3 (16 R^4 - 18 R^2 s^2 + s^4) + r^2 (68 R^3 s^2 - 27 R s^4) + r (-20 R^2 s^4 + 2 s^6))}{(r + R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{65}|^2 &: - \frac{r^2 (2 r^5 + 21 r^4 R - 4 R^3 s^2 + R s^4 + r^3 (76 R^2 - 4 s^2) + 2 r^2 (56 R^3 - 11 R s^2) + 2 r (32 R^4 - 14 R^2 s^2 + s^4))}{R (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{69}|^2 &: \frac{-r^6 - 12 r^5 R - 12 r R s^4 + s^6 - 3 r^4 (16 R^2 + 3 s^2) - 8 r^3 (8 R^3 + 3 R s^2) + r^2 (-60 R^2 s^2 + 9 s^4)}{(r^2 + 4 r R - s^2)^2} \\
|X_6 X_{72}|^2 &: - \frac{(r^2 + 2 r R - s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{R (r^2 + 4 r R - s^2)^2} \\
|X_6 X_{75}|^2 &: - \frac{1}{(r^4 + 8 r^3 R + 16 r^2 R^2 - s^4)^2} (r^{10} + 20 r^9 R + 640 r^7 R^3 + 20 r R s^8 - s^{10} - 32 r^3 R s^4 (-11 R^2 + s^2) + \\
&\quad r^8 (160 R^2 + 3 s^2) + 2 r^6 (640 R^4 - 90 R^2 s^2 + s^4) + 8 r^5 (128 R^5 - 84 R^3 s^2 + 7 R s^4) - \\
&\quad 2 r^4 (288 R^4 s^2 - 140 R^2 s^4 + s^6) - 3 r^2 (28 R^2 s^6 + s^8)) \\
|X_6 X_{76}|^2 &: (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + r^2 s^{10} (228 R^2 + 5 s^2) - r^{12} (336 R^2 + 5 s^2) - \\
&\quad 8 r^3 R s^8 (64 R^2 + 9 s^2) - 8 r^{11} (280 R^3 + 9 R s^2) - r^{10} (8960 R^4 + 348 R^2 s^2 + 9 s^4) - \\
&\quad 4 r^9 (5376 R^5 + 112 R^3 s^2 + 9 R s^4) + r^8 (-28672 R^6 + 1152 R^4 s^2 + 304 R^2 s^4 - 5 s^6) + \\
&\quad 16 r^7 R (-1024 R^6 + 192 R^4 s^2 + 140 R^2 s^4 + s^6) + r^6 (1024 R^6 s^2 + 5632 R^4 s^4 - 488 R^2 s^6 + 5 s^8) + \\
&\quad 12 r^5 (512 R^5 s^4 - 176 R^3 s^6 - 3 R s^8) + r^4 (-1408 R^4 s^6 + 448 R^2 s^8 + 9 s^{10})) / \\
&\quad (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4))^2
\end{aligned}$$

$$\begin{aligned}
|X_6 X_{78}|^2 &: \frac{R(-2r^7 - 21r^6 R - 20rR^2 s^4 + R s^6 + 7r^4 R(-16R^2 + s^2) + r^2 R s^2(68R^2 + s^2) + r^5(-76R^2 + 4s^2) - 2r^3(32R^4 - 28R^2 s^2 + s^4))}{(r-R)^2(r^2 + 4rR - s^2)^2} \\
|X_6 X_{79}|^2 &: -\frac{4r^2(r^5 R - 9R^4 s^2 - 6R^2 s^4 + 2s^6 + 2r^4(7R^2 + 3s^2) + r^3(73R^3 + 40R s^2) + 4r^2(42R^4 + 19R^2 s^2 - 2s^4) + r(144R^5 + 27R^3 s^2 - 25R s^4))}{(2r+3R)^2(r^2 + 4rR - s^2)^2} \\
|X_6 X_{80}|^2 &: \frac{4r^2(r^5 + 10r^4 R - R^3 s^2 + r^3(33R^2 - 4s^2) + 2r^2(20R^3 - 9R s^2) + r(16R^4 - 15R^2 s^2 + 3s^4))}{(2r-R)(r^2 + 4rR - s^2)^2} \\
|X_6 X_{81}|^2 &: -\frac{r^2 R^2(r^6 + 12r^5 R + 12rR s^4 - s^6 + r^4(48R^2 + 9s^2) + 8r^3(8R^3 + 3R s^2) + r^2(60R^2 s^2 - 9s^4))}{(r^4 + 5r^3 R - 5rR s^2 + s^4 + r^2(4R^2 - 2s^2))^2} \\
|X_6 X_{83}|^2 &: \frac{(-r^{14} - 28r^{13} R - 28rR s^{12} + s^{14} + r^2 s^{10}(228R^2 + 5s^2) - r^{12}(336R^2 + 5s^2) - 8r^3 R s^8(64R^2 + 9s^2) - 8r^{11}(280R^3 + 9R s^2) - r^{10}(8960R^4 + 348R^2 s^2 + 9s^4) - 4r^9(5376R^5 + 112R^3 s^2 + 9R s^4) + r^8(-28672R^6 + 1152R^4 s^2 + 304R^2 s^4 - 5s^6) + 16r^7 R(-1024R^6 + 192R^4 s^2 + 140R^2 s^4 + s^6) + r^6(1024R^6 s^2 + 5632R^4 s^4 - 488R^2 s^6 + 5s^8) + 12r^5(512R^5 s^4 - 176R^3 s^6 - 3R s^8) + r^4(-1408R^4 s^6 + 448R^2 s^8 + 9s^{10}))}{(5r^6 + 60r^5 R + 60rR s^4 - 5s^6 + r^4(240R^2 - 11s^2) + 8r^3(40R^3 - 13R s^2) + r^2(-240R^2 s^2 + 11s^4))^2} \\
|X_6 X_{85}|^2 &: \frac{(-r^{10} - 28r^9 R + s^{10} - 32r^7 R(70R^2 + s^2) - 3r^8(112R^2 + s^2) - 2r^6(4480R^4 + 14R^2 s^2 + s^4) - 8r^5(2688R^5 - 104R^3 s^2 + 5R s^4) + r^4(-28672R^6 + 3712R^4 s^2 - 296R^2 s^4 + 2s^6) - 64r^3(256R^7 - 80R^5 s^2 + 15R^3 s^4 - R s^6) + r^2(1024R^6 s^2 - 1152R^4 s^4 + 228R^2 s^6 + 3s^8) + 4r(16R^3 s^6 - 7R s^8))}{(r^4 + 12r^3 R + 48r^2 R^2 + 64rR^3 - 4rR s^2 - 16R^2 s^2 - s^4)^2} \\
|X_6 X_{86}|^2 &: -\frac{(r^2 + 4rR + s^2)^2(r^6 + 12r^5 R + 12rR s^4 - s^6 + r^4(48R^2 + 9s^2) + 8r^3(8R^3 + 3R s^2) + r^2(60R^2 s^2 - 9s^4))}{(r^4 + 8r^3 R + 16rR s^2 - 5s^4 + 4r^2(4R^2 + s^2))^2} \\
|X_6 X_{88}|^2 &: \frac{r^2 R(-81r^6 R + R s^6 + r^5(-972R^2 + 72s^2) - 27r^4(144R^3 - 5R s^2) - 8r^3(648R^4 - 189R^2 s^2 + 8s^4) + r^2(-252R^3 s^2 + 73R s^4) + 4r(5R^2 s^4 - 2s^6))}{(-3r^4 + 3r^3 R - 19rR s^2 + s^4 + 2r^2(30R^2 + s^2))^2} \\
|X_6 X_{89}|^2 &: \frac{r^2 R(-81r^6 R + R s^6 + r^5(-972R^2 + 72s^2) - 27r^4(144R^3 - 5R s^2) - 8r^3(648R^4 - 189R^2 s^2 + 8s^4) + r^2(-252R^3 s^2 + 73R s^4) + 4r(5R^2 s^4 - 2s^6))}{(6r^4 + 21r^3 R - 5rR s^2 + 2s^4 - 4r^2(3R^2 + 2s^2))^2} \\
|X_6 X_{99}|^2 &: \frac{(-r^{10} - 20r^9 R - 20rR s^8 + s^{10} - 16r^7 R(40R^2 + s^2) - r^8(160R^2 + 3s^2) - 2r^6(640R^4 + 6R^2 s^2 + s^4) - 8r^5(128R^5 + 12R^3 s^2 - R s^4) + r^4(-448R^4 s^2 + 264R^2 s^4 + 2s^6) + 16r^3(14R^3 s^4 - R s^6) + r^2(52R^2 s^6 + 3s^8))}{((r^2 + 4rR - s^2)^2(r^4 + 8r^3 R - 8rR s^2 + s^4 + 2r^2(8R^2 - 7s^2)))} \\
|X_6 X_{141}|^2 &: -\frac{r^6 + 12r^5 R + 12rR s^4 - s^6 + r^4(48R^2 + 9s^2) + 8r^3(8R^3 + 3R s^2) + r^2(60R^2 s^2 - 9s^4)}{4(r^2 + 4rR - s^2)^2} \\
|X_6 X_{142}|^2 &: -\frac{1}{4(r+4R)^2(r^2 + 4rR - s^2)^2} \\
&\quad (r^8 + 20r^7 R + 32rR^3 s^4 - 4R^2 s^6 + 64r^5 R(10R^2 + s^2) + r^6(160R^2 + 7s^2) + r^4(1280R^4 + 204R^2 s^2 - 9s^4) + 4r^3(256R^5 + 88R^3 s^2 - 13R s^4) + r^2(448R^4 s^2 - 56R^2 s^4 + s^6)) \\
|X_6 X_{145}|^2 &: \frac{7r^6 + 20r^5 R - 28rR s^4 + s^6 + 24r^3 R(-24R^2 + s^2) - r^4(176R^2 + 9s^2) + r^2(228R^2 s^2 + s^4)}{(r^2 + 4rR - s^2)^2} \\
|X_6 X_{190}|^2 &: \frac{(-r^{10} - 20r^9 R - 36rR s^8 + s^{10} + 5r^8(-32R^2 + s^2) - 128r^7(5R^3 - R s^2) + r^6(-1280R^4 + 948R^2 s^2 + 6s^4) - 8r^5(128R^5 - 340R^3 s^2 + 21R s^4) + 2r^4(1312R^4 s^2 - 636R^2 s^4 - 3s^6) - 32r^3(63R^3 s^4 - 5R s^6) + r^2(436R^2 s^6 - 5s^8))}{(3r^4 + 24r^3 R - 16rR s^2 + s^4 + r^2(48R^2 - 4s^2))^2}
\end{aligned}$$

$$\begin{aligned}
|X_6X_{192}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2-s^4)^2} \\
& \left(-r^{10} - 20r^9R - 36rR s^8 + s^{10} + 5r^8(-32R^2+s^2) - 128r^7(5R^3-Rs^2) + \right. \\
& \quad r^6(-1280R^4+948R^2s^2+6s^4) - 8r^5(128R^5-340R^3s^2+21Rs^4) + \\
& \quad \left. 2r^4(1312R^4s^2-636R^2s^4-3s^6) - 32r^3(63R^3s^4-5Rs^6) + r^2(436R^2s^6-5s^8) \right) \\
|X_6X_{194}|^2 &: \left(-r^{14} - 28r^{13}R - 28rRs^{12} + s^{14} - \right. \\
& \quad 3r^2s^{10}(-76R^2+s^2) + r^{12}(-336R^2+3s^2) + r^{11}(-2240R^3+88Rs^2) - \\
& \quad r^4s^6(1408R^4+64R^2s^2+15s^4) + r^{10}(-8960R^4+932R^2s^2+15s^4) + \\
& \quad r^9(-21504R^5+4672R^3s^2+92Rs^4) + r^8(-28672R^6+11392R^4s^2+304R^2s^4+11s^6) - \\
& \quad 16r^7(1024R^7-704R^5s^2-140R^3s^4+3Rs^6) + \\
& \quad r^6(1024R^6s^2+7680R^4s^4-1256R^2s^6-11s^8) + \\
& \quad \left. 4r^5(1536R^5s^4-784R^3s^6+23Rs^8) + r^3(-512R^3s^8+88Rs^{10}) \right) / \\
& \quad (r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-Rs^2)-r^2(48R^2s^2+s^4))^2 \\
|X_6X_{200}|^2 &: -\frac{4R(r^6R+20rR^2s^4-Rs^6+r^5(12R^2-s^2)+2r^4R(24R^2+s^2)+r^3(64R^4-20R^2s^2+s^4)-r^2(68R^3s^2+3Rs^4))}{(r-2R)^2(r^2+4rR-s^2)^2} \\
|X_6X_{210}|^2 &: \frac{-r^6R+4Rs^6+2r^5(-6R^2+s^2)+r^4(-48R^3+10Rs^2)-4r^3(16R^4-17R^2s^2+s^4)+r^2(132R^3s^2-13Rs^4)+r(-72R^2s^4+2s^6)}{9R(r^2+4rR-s^2)^2} \\
|X_6X_{213}|^2 &: -\frac{64r^4R^3s^4(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(r^6+12r^5R-r^2s^4-8rRs^4+s^6+r^4(48R^2-s^2)+r^3(64R^3-4Rs^2))^2} \\
|X_6X_{238}|^2 &: -\frac{4r^2R(r^2+4rR+s^2)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(3r^4+24r^3R-16rRs^2+s^4+r^2(48R^2-4s^2))^2} \\
|X_6X_{239}|^2 &: -\left((r^{10}+20r^9R+640r^7R^3+20rRs^8-s^{10}-32r^3Rs^4(-11R^2+s^2)+r^8(160R^2+3s^2)+ \right. \\
& \quad 2r^6(640R^4-90R^2s^2+s^4)+8r^5(128R^5-84R^3s^2+7Rs^4)- \\
& \quad 2r^4(288R^4s^2-140R^2s^4+s^6)-3r^2(28R^2s^6+s^8)) / \\
& \quad \left. (3r^4+24r^3R-16rRs^2+s^4+r^2(48R^2-4s^2))^2 \right) \\
|X_6X_{244}|^2 &: -\frac{4r^4R(4r^5+73r^4R-100R^3s^2+21Rs^4+4r^3(123R^2-4s^2)+2r^2(728R^3-57Rs^2)+4r(400R^4-117R^2s^2+3s^4))}{(-r^4+10r^3R+56r^2R^2-18rRs^2+s^4)^2} \\
|X_6X_{304}|^2 &: \left(-r^{14} - 28r^{13}R - 28rRs^{12} + s^{14} + 8r^{11}R(-280R^2+s^2) + \right. \\
& \quad 40r^3Rs^8(-16R^2+s^2) + r^2s^{10}(228R^2+s^2) - r^{12}(336R^2+s^2) + \\
& \quad r^4s^6(1408R^4-592R^2s^2-3s^4) + r^{10}(-8960R^4+292R^2s^2+3s^4) - \\
& \quad 4r^9(5376R^5-528R^3s^2+17Rs^4) + r^8(-28672R^6+6272R^4s^2-992R^2s^4+3s^6) - \\
& \quad 16r^7(1024R^7-448R^5s^2+268R^3s^4-13Rs^6) + \\
& \quad r^6(1024R^6s^2-7936R^4s^4+1400R^2s^6-3s^8) - 4r^5(1536R^5s^4-752R^3s^6+33Rs^8) \Big) / \\
& \quad (r^6+12r^5R+64r^3R^3-12rRs^4+s^6+r^4(48R^2-s^2)+r^2(16R^2s^2-s^4))^2 \\
|X_6X_{306}|^2 &: -\left((r^{10}+16r^9R+24rRs^8-s^{10}+8r^3Rs^4(12R^2+s^2)+ \right. \\
& \quad r^8(100R^2+11s^2)+8r^7(38R^3+11Rs^2)+r^6(448R^4+336R^2s^2-30s^4)+ \\
& \quad 8r^5(32R^5+82R^3s^2-17Rs^4)+2r^4(248R^4s^2-62R^2s^4+11s^6)-r^2(136R^2s^6+3s^8)) / \\
& \quad \left. (3r^4+18r^3R-10rRs^2+s^4+4r^2(6R^2-s^2))^2 \right) \\
|X_6X_{312}|^2 &: \left(-r^{10} - 12r^9R - 28rRs^8 + s^{10} - 3r^8(16R^2+s^2) - 16r^3Rs^4(36R^2+s^2) + r^7(-64R^3+48Rs^2) + \right. \\
& \quad r^6(228R^2s^2-2s^4) + 8r^5(48R^3s^2-7Rs^4) + r^4(-72R^2s^4+2s^6) + 3r^2(76R^2s^6+s^8) \Big) / \\
& \quad (-r^4+4r^3R+32r^2R^2-12rRs^2+s^4)^2
\end{aligned}$$

$$\begin{aligned}
|X_6X_{319}|^2: & - \left((r^{10} + 20 r^9 R + 180 r R s^8 - 9 s^{10} - 288 r^3 R s^4 (R^2 - s^2) + 128 r^7 R (5 R^2 + s^2) + \right. \\
& r^8 (160 R^2 + 11 s^2) + 2 r^6 (640 R^4 + 294 R^2 s^2 - 39 s^4) + 8 r^5 (128 R^5 + 172 R^3 s^2 - 69 R s^4) + \\
& 2 r^4 (736 R^4 s^2 - 516 R^2 s^4 + 63 s^6) - 3 r^2 (188 R^2 s^6 + 17 s^8) \left. \right) / \\
& (r^4 + 8 r^3 R - 16 r R s^2 + 3 s^4 + 4 r^2 (4 R^2 - s^2))^2 \\
|X_6X_{320}|^2: & (-9 r^{10} - 180 r^9 R - 20 r R s^8 + s^{10} - 384 r^7 R (15 R^2 + s^2) - \\
& 3 r^8 (480 R^2 + 17 s^2) - 18 r^6 (640 R^4 + 38 R^2 s^2 - 7 s^4) - 8 r^5 (1152 R^5 + 12 R^3 s^2 - 85 R s^4) + \\
& r^4 (-960 R^4 s^2 + 904 R^2 s^4 - 78 s^6) + 160 r^3 (5 R^3 s^4 - R s^6) + r^2 (20 R^2 s^6 + 11 s^8) \left. \right) / \\
& (3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2))^2 \\
|X_6X_{321}|^2: & - \frac{1}{(r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2} \\
& (r^{10} + 16 r^9 R + 24 r R s^8 - s^{10} - 8 r^3 R s^4 (-52 R^2 + s^2) + r^8 (100 R^2 + 3 s^2) + \\
& 8 r^7 (38 R^3 - 3 R s^2) + 2 r^6 (224 R^4 - 120 R^2 s^2 + s^4) + 8 r^5 (32 R^5 - 78 R^3 s^2 + 7 R s^4) - \\
& 2 r^4 (264 R^4 s^2 - 106 R^2 s^4 + s^6) - r^2 (152 R^2 s^6 + 3 s^8) \left. \right) \\
|X_6X_{345}|^2: & (-r^{10} - 12 r^9 R - 28 r R s^8 + s^{10} - 3 r^8 (16 R^2 + 5 s^2) - \\
& 32 r^7 (2 R^3 + 3 R s^2) + r^6 (-348 R^2 s^2 + 34 s^4) + r^5 (-384 R^3 s^2 + 72 R s^4) - \\
& 2 r^4 (140 R^2 s^4 + 9 s^6) - 64 r^3 (9 R^3 s^4 - R s^6) + r^2 (228 R^2 s^6 - s^8) \left. \right) / \\
& (5 r^4 + 28 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 6 s^2))^2 \\
|X_6X_{346}|^2: & \frac{s^4 (7 r^6 + 20 r^5 R - 28 r R s^4 + s^6 + 24 r^3 R (-24 R^2 + s^2) - r^4 (176 R^2 + 9 s^2) + r^2 (228 R^2 s^2 + s^4))}{(2 r^4 + 16 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 3 s^2))^2} \\
|X_6X_{350}|^2: & (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + 8 r^3 R s^8 (24 R^2 - 11 s^2) - 56 r^{11} R (40 R^2 + s^2) + \\
& r^2 s^{10} (196 R^2 + 5 s^2) - r^{12} (336 R^2 + 5 s^2) - 4 r^9 R (5376 R^4 - 528 R^2 s^2 + s^4) - \\
& r^{10} (8960 R^4 + 28 R^2 s^2 + 9 s^4) + r^8 (-28672 R^6 + 11392 R^4 s^2 + 400 R^2 s^4 - 5 s^6) - \\
& 16 r^7 (1024 R^7 - 1472 R^5 s^2 - 72 R^3 s^4 - R s^6) + r^6 (17408 R^6 s^2 + 512 R^4 s^4 - 520 R^2 s^6 + 5 s^8) + \\
& 4 r^5 (256 R^5 s^4 - 496 R^3 s^6 - 17 R s^8) + r^4 (-4224 R^4 s^6 + 608 R^2 s^8 + 9 s^{10}) \left. \right) / \\
& (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 16 r^3 (4 R^3 - R s^2) - r^2 (80 R^2 s^2 + s^4))^2 \\
|X_7X_8|^2: & - \frac{16 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r+4 R)^2} \\
|X_7X_9|^2: & - \frac{r^4 + 12 r^3 R - 4 R^2 s^2 - 8 r R (-8 R^2 + s^2) + r^2 (48 R^2 + 5 s^2)}{(r+4 R)^2} \\
|X_7X_{10}|^2: & - \frac{3 r^4 + 40 r^3 R - 16 R^2 s^2 + r^2 (176 R^2 + 7 s^2) + 8 r (32 R^3 - 3 R s^2)}{4 (r+4 R)^2} \\
|X_7X_{11}|^2: & - \frac{r^2 (r^3 + 12 r^2 R + 64 R^3 - 15 R s^2 + 3 r (16 R^2 + s^2))}{(2 r - R) (r+4 R)^2} \\
|X_7X_{12}|^2: & - \frac{r^2 (2 r^4 + 25 r^3 R - 9 R^2 s^2 + 2 r^2 (52 R^2 + 3 s^2) + 3 r (48 R^3 - 5 R s^2))}{(2 r^2 + 9 r R + 4 R^2)^2} \\
|X_7X_{20}|^2: & \frac{4 (r+2 R)^2 (r^2 + 8 r R + 16 R^2 - 3 s^2)}{(r+4 R)^2} \\
|X_7X_{21}|^2: & - \frac{4 (r+2 R)^2 (r^3 R - R^2 s^2 + 4 r^2 (2 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{(2 r^2 + 11 r R + 12 R^2)^2} \\
|X_7X_{31}|^2: & - \frac{r^2 (3 r^6 + 48 r^5 R - 64 R^4 s^2 + 3 s^6 + r^4 (304 R^2 + 41 s^2) + 8 r^3 (120 R^3 + 23 R s^2) + r^2 (1536 R^4 + 160 R^2 s^2 - 23 s^4) + 8 r (128 R^5 - 16 R^3 s^2 - 7 R s^4))}{(r+4 R)^2 (-3 r^2 - 6 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_7X_{32}|^2 &: - \left((r^2 (r^{10} + 28 r^9 R - 64 R^4 s^6 + 3 s^{10} + \right. \\
&\quad r^8 (336 R^2 - s^2) + 56 r^7 (40 R^3 - R s^2) + r^6 (8960 R^4 - 772 R^2 s^2 - 54 s^4) + \\
&\quad 16 r^5 (1344 R^5 - 292 R^3 s^2 - 29 R s^4) + 2 r^4 (14 336 R^6 - 6976 R^4 s^2 - 476 R^2 s^4 + 79 s^6) + \\
&\quad 8 r^3 (2048 R^7 - 2432 R^5 s^2 + 116 R^3 s^4 + 71 R s^6) + \\
&\quad \left. r^2 (-9216 R^6 s^2 + 3456 R^4 s^4 + 476 R^2 s^6 - 43 s^8) + 4 r (384 R^5 s^4 - 40 R^3 s^6 - 19 R s^8) \right) / \\
&\quad \left((r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right) \\
|X_7X_{35}|^2 &: \frac{r^2 (2 r^3 R + 144 R^4 - 11 R^2 s^2 + r^2 (25 R^2 - 16 s^2) + 2 r (52 R^3 - 15 R s^2))}{(2 r^2 + 9 r R + 4 R^2)^2} \\
|X_7X_{36}|^2 &: - \frac{r^2 (r^2 R + 16 R^3 + 5 R s^2 + 8 r (R^2 + s^2))}{(2 r - R) (r + 4 R)^2} \\
|X_7X_{37}|^2 &: - \frac{r^2 (r^6 + 20 r^5 R - 64 R^4 s^2 - 32 R^2 s^4 + 3 s^6 + 32 r^3 R (20 R^2 + s^2) + 5 r^4 (32 R^2 + s^2) + r^2 (1280 R^4 + 12 R^2 s^2 + 7 s^4) + 4 r (256 R^5 - 40 R^3 s^2 + 5 R s^4))}{(r + 4 R)^2 (r^2 + 4 r R + s^2)^2} \\
|X_7X_{38}|^2 &: - \frac{r^2 (3 r^6 + 48 r^5 R - 64 R^4 s^2 - 32 R^2 s^4 + 3 s^6 + 8 r^3 R (120 R^2 + s^2) + r^4 (304 R^2 + 9 s^2) + 3 r^2 (512 R^4 + 3 s^4) + 8 r (128 R^5 - R s^4))}{(r + 4 R)^2 (r^2 - 2 r R + s^2)^2} \\
|X_7X_{39}|^2 &: - \left((r^2 (r^{10} + 28 r^9 R - 64 R^4 s^6 + 3 s^{10} + 7 r^8 (48 R^2 + s^2) + 8 r^7 (280 R^3 + 13 R s^2) + 2 r^6 \right. \\
&\quad (4480 R^4 + 254 R^2 s^2 + 9 s^4) + 16 r^5 (1344 R^5 + 28 R^3 s^2 + 5 R s^4) + 2 r^4 (14 336 R^6 - \\
&\quad 1856 R^4 s^2 - 92 R^2 s^4 + 11 s^6) + 8 r^3 (2048 R^7 - 1408 R^5 s^2 - 76 R^3 s^4 - 5 R s^6) + \\
&\quad \left. r^2 (-9216 R^6 s^2 + 1408 R^4 s^4 + 220 R^2 s^6 + 13 s^8) + 4 r (384 R^5 s^4 - 40 R^3 s^6 - 11 R s^8) \right) / \\
&\quad \left((r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \\
|X_7X_{40}|^2 &: - \frac{r^4 + 12 r^3 R - 64 R^4 + 8 r R (4 R^2 + s^2) + r^2 (44 R^2 + 5 s^2)}{(r + 4 R)^2} \\
|X_7X_{41}|^2 &: - \left((r^2 (r^8 + 28 r^7 R + 32 r^5 R (70 R^2 + s^2) + 3 r^6 (112 R^2 + s^2) + r^4 (8960 R^4 + 28 R^2 s^2 - 29 s^4) + \right. \\
&\quad 4 R^2 s^2 (-256 R^4 + 32 R^2 s^2 + 7 s^4) + 4 r^3 (5376 R^5 - 208 R^3 s^2 - 63 R s^4) + \\
&\quad 64 r R (256 R^6 - 80 R^4 s^2 - 4 R^2 s^4 + s^6) + r^2 (28 672 R^6 - 3712 R^4 s^2 - 616 R^2 s^4 + 33 s^6) \right) / \\
&\quad \left((r + 4 R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \right) \\
|X_7X_{42}|^2 &: \frac{r^2 (r^6 + 16 r^5 R + 64 R^4 s^2 - 3 s^6 + r^4 (80 R^2 - s^2) + 32 r^3 R (2 R^2 + s^2) + r^2 (-512 R^4 + 80 R^2 s^2 - 5 s^4) - 16 r (64 R^5 - 12 R^3 s^2 - R s^4))}{(r + 4 R)^2 (r^2 - 2 r R + s^2)^2} \\
|X_7X_{43}|^2 &: \frac{r^2 (r^6 + 16 r^5 R + 256 R^4 s^2 - 16 R^2 s^4 - 3 s^6 + r^4 (32 R^2 - s^2) - 64 r^3 (8 R^3 - R s^2) - r^2 (2816 R^4 + 48 R^2 s^2 + 5 s^4) + r (-4096 R^5 + 512 R^3 s^2 + 48 R s^4))}{(r + 4 R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_7X_{44}|^2 &: - \frac{1}{(r + 4 R)^2 (-3 r^2 - 12 r R + s^2)^2} r^2 (9 r^6 + 180 r^5 R - 576 R^4 s^2 + 32 R^2 s^4 + 3 s^6 + 288 r^3 R (20 R^2 + s^2) + \\
&\quad 45 r^4 (32 R^2 + s^2) + r^2 (11 520 R^4 + 108 R^2 s^2 - 25 s^4) + 4 r (2304 R^5 - 360 R^3 s^2 - 23 R s^4)) \\
|X_7X_{45}|^2 &: - \frac{1}{(r + 4 R)^2 (3 r^2 + 12 r R + s^2)^2} r^2 (9 r^6 + 180 r^5 R - 576 R^4 s^2 - 64 R^2 s^4 + 3 s^6 + 288 r^3 R (20 R^2 + s^2) + \\
&\quad 45 r^4 (32 R^2 + s^2) + r^2 (11 520 R^4 + 108 R^2 s^2 + 23 s^4) + 4 r (2304 R^5 - 360 R^3 s^2 + 19 R s^4)) \\
|X_7X_{46}|^2 &: - \frac{r^2 (r^4 + 12 r^3 R + 56 r R^3 - 16 R^4 - 5 R^2 s^2 + r^2 (47 R^2 + 5 s^2))}{(r^2 + 3 r R - 4 R^2)^2} \\
|X_7X_{55}|^2 &: \frac{r^2 (r^3 R + 64 R^4 - 7 R^2 s^2 + 4 r^2 (3 R^2 - s^2) + r (48 R^3 - 11 R s^2))}{(r^2 + 5 r R + 4 R^2)^2} \\
|X_7X_{56}|^2 &: - \frac{r^2 (r^3 R - R^2 s^2 + 4 r^2 (2 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{(r^2 + 3 r R - 4 R^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_7X_{57}|^2 &: - \frac{r^2 (r^4 + 12 r^3 R - 4 R^2 s^2 + r^2 (48 R^2 + 5 s^2) + 8 r (8 R^3 - R s^2))}{(r^2 + 2 r R - 8 R^2)^2} \\
|X_7X_{58}|^2 &: - \frac{r^2 (3 r^6 + 52 r^5 R - 64 R^4 s^2 + 3 s^6 + r^4 (348 R^2 + 41 s^2) + 8 r^3 (140 R^3 + 17 R s^2) + r^2 (1728 R^4 + 44 R^2 s^2 - 23 s^4) + 4 r (256 R^5 - 40 R^3 s^2 - 11 R s^4))}{(r+4R)^2 (-3r^2 - 4rR + s^2)^2} \\
|X_7X_{63}|^2 &: - \frac{(r+2R)^2 (r^4 + 12 r^3 R - 4 R^2 s^2 + r^2 (48 R^2 + 5 s^2) + 8 r (8 R^3 - R s^2))}{(r^2 + 5 r R + 4 R^2)^2} \\
|X_7X_{65}|^2 &: - \frac{r^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{R (r+4R)^2} \\
|X_7X_{69}|^2 &: - \frac{16 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r+4R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_7X_{72}|^2 &: - \frac{-2 r^5 - 27 r^4 R - 136 r^3 R^2 + 16 R^3 s^2 + 4 r^2 R (-76 R^2 + s^2) - 32 r (8 R^4 - R^2 s^2)}{R (r+4R)^2} \\
|X_7X_{75}|^2 &: - \frac{16 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r+4R)^2 (r^2 + 4 r R + s^2)^2} \\
|X_7X_{76}|^2 &: - \frac{16 R s^4 (r^7 + 12 r^6 R + R s^6 + r^5 (32 R^2 + 3 s^2) - r^4 (64 R^3 + 23 R s^2) + r^3 (-256 R^4 + 88 R^2 s^2 + 3 s^4) + 18 r^2 (8 R^3 s^2 - R s^4) + r (-24 R^2 s^4 + s^6))}{(r+4R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_7X_{78}|^2 &: - \frac{r^6 + 12 r^5 R + 16 R^4 s^2 + r^4 (48 R^2 - 3 s^2) + 16 r R^3 (-16 R^2 + s^2) + 4 r^3 R (12 R^2 + s^2) - 8 r^2 R^2 (16 R^2 + s^2)}{(r^2 + 3 r R - 4 R^2)^2} \\
|X_7X_{79}|^2 &: - \frac{r^2 R (2 r^3 + 25 r^2 R + 144 R^3 - 35 R s^2 + 2 r (52 R^2 + 5 s^2))}{(2 r^2 + 11 r R + 12 R^2)^2} \\
|X_7X_{80}|^2 &: - \frac{9 r^2 R (r^2 + 8 r R + 16 R^2 - 3 s^2)}{(2 r - R) (r+4R)^2} \\
|X_7X_{81}|^2 &: - \frac{r^2 (r^6 + 16 r^5 R - 16 R^4 s^2 - 8 R^2 s^4 + 3 s^6 + r^4 (20 R^2 + s^2) + 4 r^3 (76 R^3 + 3 R s^2) + r^2 (448 R^4 - 16 R^2 s^2 - 9 s^4) + 4 r (64 R^5 - 12 R^3 s^2 - 5 R s^4))}{(r+4R)^2 (r^2 + r R - s^2)^2} \\
|X_7X_{83}|^2 &: - \left((16 (r^{12} + 28 r^{11} R - R^2 s^{10} + r R s^8 (40 R^2 - 3 s^2) + 40 r^9 R (56 R^2 + s^2) + 4 r^{10} (84 R^2 + s^2) + \right. \\
&\quad 2 r^8 (4480 R^4 - 26 R^2 s^2 - 9 s^4) + r^7 (21504 R^5 - 2112 R^3 s^2 - 215 R s^4) + \\
&\quad 8 r^6 (3584 R^6 - 1264 R^4 s^2 - 81 R^2 s^4 + 3 s^6) + r^5 (16384 R^7 - 19456 R^5 s^2 + \\
&\quad 784 R^3 s^4 + 215 R s^6) + r^4 (-13312 R^6 s^2 + 5376 R^4 s^4 + 347 R^2 s^6 - 15 s^8) + \\
&\quad \left. r^3 (4096 R^5 s^4 - 856 R^3 s^6 - 73 R s^8) + r^2 (-592 R^4 s^6 + 78 R^2 s^8 + 4 s^{10})) \right) / \\
&\quad \left((r+4R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2 \right) \\
|X_7X_{85}|^2 &: - \frac{16 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r+4R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2} \\
|X_7X_{86}|^2 &: - \frac{16 s^4 (r^3 R - R^2 s^2 + 4 r^2 (2 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{(r+4R)^2 (r^2 + 4 r R + 5 s^2)^2} \\
|X_7X_{88}|^2 &: - \frac{1}{(r+4R)^2 (3 r^2 - 15 r R + s^2)^2} r^2 (9 r^6 + 72 r^5 R - 144 R^4 s^2 + 8 R^2 s^4 + 3 s^6 + 9 r^4 (4 R^2 + 5 s^2) - \\
&\quad 36 r^3 (20 R^3 + 7 R s^2) + r^2 (-576 R^4 + 432 R^2 s^2 + 23 s^4) + 4 r (576 R^5 - 36 R^3 s^2 - 17 R s^4)) \\
|X_7X_{89}|^2 &: - \frac{1}{(r+4R)^2 (-6 r^2 + 3 r R + 2 s^2)^2} 4 r^2 (9 r^6 + 126 r^5 R - 36 R^4 s^2 - 4 R^2 s^4 + 3 s^6 + 18 r^3 R (86 R^2 + s^2) + \\
&\quad 9 r^4 (73 R^2 + 5 s^2) + r^2 (1584 R^4 - 135 R^2 s^2 - 25 s^4) + 4 r (144 R^5 - 36 R^3 s^2 - 5 R s^4)) \\
|X_7X_{99}|^2 &: - \frac{16 s^4 (4 r^4 + 5 r^3 R - 12 r^2 R^2 - 16 r R^3 + r R s^2 + R^2 s^2)}{(r+4R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}
\end{aligned}$$

$$\begin{aligned}
|X_7 X_{141}|^2 &: -\frac{1}{4(r+4R)^2(r^2+4rR-s^2)^2} \\
&\quad (r^8 + 20r^7R - 16R^2s^6 + r^6(160R^2 + s^2) + 32r^5(20R^3 - Rs^2) + r^4(1280R^4 - 372R^2s^2 - 9s^4) + \\
&\quad 4r^3(256R^5 - 296R^3s^2 + 5Rs^4) + r^2(-1088R^4s^2 + 304R^2s^4 + 7s^6) + 8r(40R^3s^4 - 3Rs^6)) \\
|X_7 X_{142}|^2 &: -\frac{r^4+12r^3R-4R^2s^2-8rR(-8R^2+s^2)+r^2(48R^2+5s^2)}{4(r+4R)^2} \\
|X_7 X_{145}|^2 &: \frac{4(3r^4+20r^3R-64rR^3+4R^2s^2+r^2(16R^2-s^2))}{(r+4R)^2} \\
|X_7 X_{190}|^2 &: -\frac{1}{(r+4R)^2(-3r^2-12rR+s^2)^2} \\
&\quad 16(r^8 + 20r^7R - R^2s^6 + 4r^6(40R^2 + s^2) + 16r^5R(40R^2 + s^2) + r^4(1280R^4 - 84R^2s^2 - s^4) + \\
&\quad r^3(1024R^5 - 416R^3s^2 + 3Rs^4) - 4r^2(80R^4s^2 - 9R^2s^4) + r(32R^3s^4 - Rs^6)) \\
|X_7 X_{192}|^2 &: -\frac{1}{(r+4R)^2(r^2+4rR+s^2)^2} 4(r^8 + 20r^7R + 640r^5R^3 + 96rR^3s^4 - 4R^2s^6 + r^6(160R^2 + 3s^2) + \\
&\quad r^4(1280R^4 - 180R^2s^2 + 3s^4) + \\
&\quad 4r^3(256R^5 - 168R^3s^2 + 3Rs^4) + r^2(-576R^4s^2 + 24R^2s^4 + s^6)) \\
|X_7 X_{194}|^2 &: -\left((4(r^{12} + 28r^{11}R + 64rR^3s^8 - 4R^2s^{10} + r^{10}(336R^2 + 5s^2) + 8r^9(280R^3 + 9Rs^2) + \right. \\
&\quad r^2s^6(128R^4 - 16R^2s^2 + s^4) + 2r^8(4480R^4 + 174R^2s^2 + 5s^4) + \\
&\quad 16r^7(1344R^5 + 28R^3s^2 + 3Rs^4) + 2r^6(14336R^6 - 576R^4s^2 - 96R^2s^4 + 5s^6) + \\
&\quad 8r^5(2048R^7 - 384R^5s^2 - 176R^3s^4 - Rs^6) + \\
&\quad \left. r^4(-1024R^6s^2 - 2560R^4s^4 + 40R^2s^6 + 5s^8) - 4r^3(512R^5s^4 - 48R^3s^6 + 3Rs^8) \right) \Big/ \\
&\quad \left((r+4R)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
|X_7 X_{200}|^2 &: \frac{r^6+16r^5R+64R^4s^2+r^4(80R^2-3s^2)+8r^3R(8R^2+s^2)-16r^2R^2(32R^2+s^2)-64r(16R^5-R^3s^2)}{(r^2+2rR-8R^2)^2} \\
|X_7 X_{210}|^2 &: -\frac{3r^5+52r^4R-64R^3s^2+r^3(336R^2+s^2)+r^2(960R^3+7Rs^2)+16r(64R^4-7R^2s^2)}{9R(r+4R)^2} \\
|X_7 X_{213}|^2 &: -\left((r^2(r^{10} + 28r^9R - 64R^4s^6 + 3s^{10} + 7r^8(48R^2 + s^2) + 40r^7(56R^3 + 3Rs^2) + 2r^6 \right. \\
&\quad (4480R^4 + 414R^2s^2 + s^4) + 8r^5(2688R^5 + 376R^3s^2 + 7Rs^4) + 2r^4(14336R^6 + \\
&\quad 3264R^4s^2 + 164R^2s^4 - 5s^6) + 8r^3(2048R^7 + 1152R^5s^2 + 60R^3s^4 - 9Rs^6) + \\
&\quad \left. r^2(7168R^6s^2 - 128R^4s^4 - 100R^2s^6 - 3s^8) + 4r(128R^5s^4 - 24R^3s^6 - 9Rs^8) \right) \Big/ \\
&\quad \left((r+4R)^2(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2 \right) \\
|X_7 X_{238}|^2 &: -\frac{1}{(r+4R)^2(-3r^2-12rR+s^2)^2} r^2(3r^6 + 64r^5R - 256R^4s^2 + 16R^2s^4 + 3s^6 + r^4(544R^2 + 41s^2) + \\
&\quad 8r^3(288R^3 + 37Rs^2) + r^2(4864R^4 + 384R^2s^2 - 23s^4) + 8r(512R^5 - 80R^3s^2 - 11Rs^4)) \\
|X_7 X_{239}|^2 &: -\frac{1}{(r+4R)^2(-3r^2-12rR+s^2)^2} \\
&\quad 4(r^8 + 20r^7R + 32rR^3s^4 - 4R^2s^6 + 64r^5R(10R^2 + s^2) + r^6(160R^2 + 7s^2) + \\
&\quad r^4(1280R^4 + 204R^2s^2 - 9s^4) + 4r^3(256R^5 + 88R^3s^2 - 13Rs^4) + \\
&\quad r^2(448R^4s^2 - 56R^2s^4 + s^6)) \\
|X_7 X_{244}|^2 &: -\frac{r^2(3r^6+16r^5R-64R^4s^2+3s^6+r^4(-80R^2+9s^2))-8r^3(72R^3+11Rs^2)+r^2(-512R^4+480R^2s^2+9s^4)+8r(128R^5-9Rs^4)}{(r+4R)^2(r^2-14rR+s^2)^2}
\end{aligned}$$

$$\begin{aligned}
& |X_7X_{304}|^2: \\
& \quad - \frac{16R s^4 (3r^7 + 36r^6 R - R s^6 + r^5 (160R^2 - 3s^2) + r^4 (320R^3 - 33R s^2) + r^3 (256R^4 - 168R^2 s^2 + s^4) + r^2 (-144R^3 s^2 + 22R s^4) + r (24R^2 s^4 - s^6))}{(r+4R)^2 (r^4 + 8r^3 R + 16r^2 R^2 + 8r R s^2 - s^4)^2} \\
& |X_7X_{306}|^2: \\
& \quad - \frac{1}{(r+4R)^2 (-3r^2 - 6r R + s^2)^2} \\
& \quad 4 (r^8 + 16r^7 R - 4R^2 s^6 + r^6 (100R^2 + 3s^2) + 16r^5 (19R^3 - R s^2) + 2r^4 (224R^4 - 80R^2 s^2 - s^4) + \\
& \quad 4r^3 (64R^5 - 92R^3 s^2 + 3R s^4) + r^2 (-272R^4 s^2 + 64R^2 s^4) + r (80R^3 s^4 - 4R s^6)) \\
& |X_7X_{312}|^2: \\
& \quad - \frac{16R (4r^6 R - R s^6 + r^5 (48R^2 - 2s^2) + 4r^4 (48R^3 - R s^2) + r^3 (256R^4 - 128R^2 s^2 - s^4) - 4r^2 (36R^3 s^2 - 5R s^4) + r (24R^2 s^4 - s^6))}{(r+4R)^2 (r^2 - 8r R + s^2)^2} \\
& |X_7X_{319}|^2: \\
& \quad - \frac{144R s^4 (r^3 + 8r^2 R + 16r R^2 - r s^2 - R s^2)}{(r+4R)^2 (r^2 + 4r R - 3s^2)^2} \\
& |X_7X_{320}|^2: \\
& \quad - \frac{16R s^4 (r^3 + 8r^2 R + 16r R^2 - r s^2 - R s^2)}{(r+4R)^2 (-3r^2 - 12r R + s^2)^2} \\
& |X_7X_{321}|^2: \\
& \quad - \frac{16R (r^6 R - R s^6 + r^5 (12R^2 - s^2) + r^4 (48R^3 - 7R s^2) + 8r^3 (8R^4 - 7R^2 s^2) + r^2 (-68R^3 s^2 + 14R s^4) + r (20R^2 s^4 - s^6))}{(r+4R)^2 (r^2 - 2r R + s^2)^2} \\
& |X_7X_{345}|^2: \\
& \quad - \frac{1}{(r+4R)^2 (-5r^2 - 8r R + s^2)^2} \\
& \quad 16 (r^8 + 16r^7 R - R^2 s^6 + 4r^6 (25R^2 + s^2) + r^5 (304R^3 - 2R s^2) + r^4 (448R^4 - 88R^2 s^2 - s^4) + \\
& \quad r^3 (256R^5 - 208R^3 s^2 + 5R s^4) - 24r^2 (6R^4 s^2 - R^2 s^4) + r (24R^3 s^4 - R s^6)) \\
& |X_7X_{346}|^2: \\
& \quad - \frac{1}{(r+4R)^2 (-2r^2 - 8r R + s^2)^2} \\
& \quad 4 (r^8 + 20r^7 R + 640r^5 R^3 - 4R^2 s^6 + r^6 (160R^2 + 3s^2) + 2r^4 (640R^4 - 90R^2 s^2 - s^4) + \\
& \quad 8r^3 R (128R^4 - 84R^2 s^2 + s^4) + r^2 (-576R^4 s^2 + 88R^2 s^4) + r (96R^3 s^4 - 4R s^6)) \\
& |X_7X_{350}|^2: \\
& \quad - \frac{16R s^4 (3r^7 + 32r^6 R - 55r^4 R s^2 + R s^6 + r^5 (96R^2 + 7s^2) + r^3 (-256R^4 + 136R^2 s^2 + 5s^4) + 2r^2 (72R^3 s^2 - 11R s^4) + r (-24R^2 s^4 + s^6))}{(r+4R)^2 (r^4 + 8r^3 R - 16r R s^2 + s^4 + 2r^2 (8R^2 + s^2))^2} \\
& |X_8X_9|^2: \\
& \quad \frac{3r^4 + 20r^3 R - 64r R^3 + 4R^2 s^2 + r^2 (16R^2 - s^2)}{(r+4R)^2} \\
& |X_8X_{10}|^2: \\
& \quad \frac{1}{4} (5r^2 - 16r R + s^2) \\
& |X_8X_{11}|^2: \\
& \quad \frac{3r^3 - 20r^2 R + 16r R^2 + r s^2 - R s^2}{2r - R} \\
& |X_8X_{12}|^2: \\
& \quad \frac{6r^4 - 21r^3 R + R^2 s^2 + r^2 (-40R^2 + 2s^2) + r (-16R^3 + 3R s^2)}{(2r + R)^2} \\
& |X_8X_{20}|^2: \\
& \quad 4 (3r^2 + 4r R + 4R^2 - s^2) \\
& |X_8X_{21}|^2: \\
& \quad \frac{4 (4r^4 + 5r^3 R - 12r^2 R^2 - 16r R^3 + r R s^2 + R^2 s^2)}{(2r + 3R)^2} \\
& |X_8X_{31}|^2: \\
& \quad \frac{33r^6 + 96r^5 R - 24r R s^4 + s^6 + 8r^3 R (-32R^2 + s^2) - r^4 (64R^2 + 29s^2) + 3r^2 (48R^2 s^2 + s^4)}{(-3r^2 - 6r R + s^2)^2} \\
& |X_8X_{32}|^2: \\
& \quad (3r^{10} + 44r^9 R - 28r R s^8 + s^{10} + r^8 (224R^2 - 43s^2) + 8r^7 (48R^3 - 43R s^2) - \\
& \quad 2r^6 (128R^4 + 294R^2 s^2 - 79s^4) - 16r^5 (64R^5 - 50R^3 s^2 - 15R s^4) + \\
& \quad 2r^4 (800R^4 s^2 - 252R^2 s^4 - 27s^6) + r^3 (-928R^3 s^4 + 88R s^6) + r^2 (244R^2 s^6 - s^8)) / \\
& \quad (r^4 + 8r^3 R - 8r R s^2 + s^4 + 2r^2 (8R^2 - 3s^2))^2 \\
& |X_8X_{35}|^2: \\
& \quad \frac{16r^4 + 2r^3 R - 27r^2 R^2 + R^2 s^2 + 2r R (-8R^2 + s^2)}{(2r + R)^2} \\
& |X_8X_{36}|^2: \\
& \quad \frac{8r^3 - 13r^2 R + 16r R^2 - R s^2}{2r - R} \\
& |X_8X_{37}|^2: \\
& \quad \frac{3r^6 + 20r^5 R - 12r R s^4 + s^6 + 16r^3 R (-4R^2 + s^2) + r^4 (16R^2 + 7s^2) + r^2 (-60R^2 s^2 + 5s^4)}{(r^2 + 4r R + s^2)^2} \\
& |X_8X_{38}|^2: \\
& \quad \frac{r^6 - 16r^5 R + 3r^4 s^2 - 24r R s^4 + s^6 - 8r^3 R (32R^2 + s^2) + 3r^2 (48R^2 s^2 + s^4)}{(r^2 - 2r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_8X_{39}|^2 &: \quad (3r^{10} + 44r^9R - 28rRs^8 + s^{10} + r^8(224R^2 + 13s^2) + \\
&\quad 8r^7(48R^3 + 5Rs^2) + r^6(-256R^4 - 204R^2s^2 + 22s^4) - 16r^5(64R^5 + 14R^3s^2 + 5Rs^4) + \\
&\quad 2r^4(800R^4s^2 + 196R^2s^4 + 9s^6) - 8r^3(116R^3s^4 + 13Rs^6) + r^2(244R^2s^6 + 7s^8)) / \\
&\quad (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \\
|X_8X_{40}|^2 &: \quad 3r^2 + 4rR + 4R^2 - s^2 \\
|X_8X_{41}|^2 &: \quad (3r^8 + 44r^7R + 4R^2s^6 + r^6(224R^2 - 23s^2) + 24r^5(16R^3 - 7Rs^2) + \\
&\quad r^4(-256R^4 - 204R^2s^2 + 41s^4) - 4r^3(256R^5 - 136R^3s^2 + 3Rs^4) + \\
&\quad r^2(576R^4s^2 - 152R^2s^4 + 3s^6) + r(-96R^3s^4 + 8Rs^6)) / \\
&\quad (r^3 + 8r^2R + 16rR^2 - 3Rs^2 - 2Rs^2)^2 \\
|X_8X_{42}|^2 &: \quad \frac{(r^2 + s^2)^2(5r^2 - 16rR + s^2)}{(r^2 - 2rR + s^2)^2} \\
|X_8X_{43}|^2 &: \quad \frac{(5r^2 - 16rR + s^2)(r^2 - 4rR + s^2)^2}{(r^2 - 8rR + s^2)^2} \\
|X_8X_{44}|^2 &: \quad \frac{27r^6 + 180r^5R - 28rRs^4 + s^6 + 3r^4(48R^2 - 11s^2) - 48r^3R(12R^2 + s^2) + r^2(228R^2s^2 + 5s^4)}{(3r^2 - 12rR + s^2)^2} \\
|X_8X_{45}|^2 &: \quad \frac{27r^6 + 180r^5R - 4rRs^4 + s^6 + 48r^3R(-12R^2 + s^2) + 3r^4(48R^2 + 5s^2) + r^2(-156R^2s^2 + 5s^4)}{(3r^2 + 12rR + s^2)^2} \\
|X_8X_{46}|^2 &: \quad \frac{3r^4 - 4r^3R - 16rR^3 + R^2s^2 + r^2(13R^2 - s^2)}{(r - R)^2} \\
|X_8X_{55}|^2 &: \quad \frac{4r^4 + 5r^3R - 12r^2R^2 - 16rR^3 + rRs^2 + R^2s^2}{(r + R)^2} \\
|X_8X_{56}|^2 &: \quad \frac{4r^4 - 13r^3R + 24r^2R^2 + R^2s^2 - rR(16R^2 + s^2)}{(r - R)^2} \\
|X_8X_{57}|^2 &: \quad \frac{3r^4 - 12r^3R - 64rR^3 + 4R^2s^2 + r^2(32R^2 - s^2)}{(r - 2R)^2} \\
|X_8X_{58}|^2 &: \quad \frac{33r^6 + 44r^5R - 20rRs^4 + s^6 - r^4(44R^2 + 29s^2) - 8r^3(8R^3 - 3Rs^2) + r^2(68R^2s^2 + 3s^4)}{(-3r^2 - 4rR + s^2)^2} \\
|X_8X_{63}|^2 &: \quad \frac{r^2(3r^2 + 4rR + 4R^2 - s^2)}{(r + R)^2} \\
|X_8X_{65}|^2 &: \quad -8r^2 - \frac{r^3}{R} - 16rR + s^2 + \frac{r s^2}{R} \\
|X_8X_{69}|^2 &: \quad -\frac{16r^2R(r^3 + 8r^2R + 16rR^2 - r s^2 - R s^2)}{(r^2 + 4rR - s^2)^2} \\
|X_8X_{72}|^2 &: \quad \frac{r^2(-2r + R)}{R} \\
|X_8X_{75}|^2 &: \quad -\frac{16r^2R(r^3 + 8r^2R + 16rR^2 - r s^2 - R s^2)}{(r^2 + 4rR + s^2)^2} \\
|X_8X_{76}|^2 &: \quad -\frac{16r^2R(r^7 + 16r^6R - R s^6 - 18r^2Rs^2(8R^2 + s^2) + 3r^5(32R^2 + s^2) + r^4(256R^3 + 15Rs^2) + r^3(256R^4 - 24R^2s^2 + 3s^4) + r(24R^2s^4 + s^6))}{(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_8X_{78}|^2 &: \quad \frac{r^2(5r^2 - 16rR + s^2)}{(r - R)^2} \\
|X_8X_{79}|^2 &: \quad -\frac{9R(6r^3 + 19r^2R + 16rR^2 - 2r s^2 - R s^2)}{(2r + 3R)^2} \\
|X_8X_{80}|^2 &: \quad -\frac{R(5r^2 - 16rR + s^2)}{2r - R} \\
|X_8X_{81}|^2 &: \quad \frac{3r^6 + 4r^5R + 4r^3Rs^2 + 5r^2s^4 - 16rRs^4 + s^6 + r^4(4R^2 - 9s^2)}{(r^2 + rR - s^2)^2} \\
|X_8X_{83}|^2 &: \quad (16(4r^{10} + 55r^9R - 30rRs^8 + s^{10} + 15r^8(16R^2 - s^2) + 5r^7(32R^3 - 33Rs^2) + \\
&\quad r^6(-1280R^4 - 423R^2s^2 + 24s^4) + r^5(-2304R^5 + 696R^3s^2 + 163Rs^4) + \\
&\quad 6r^4(472R^4s^2 - 5R^2s^4 - 3s^6) - r^3(1336R^3s^4 + 31Rs^6) + r^2(297R^2s^6 + 4s^8)) / \\
&\quad (5r^4 + 40r^3R - 40rRs^2 + 5s^4 + r^2(80R^2 - 6s^2))^2 \\
|X_8X_{85}|^2 &: \quad -\frac{16R(r + 4R)^2(r^3 + 8r^2R + 16rR^2 - r s^2 - R s^2)}{(r^2 + 8rR + 16R^2 + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_8 X_{86}|^2 &: - \frac{16 (r^5 R + 14 r R s^4 - s^6 + r^4 (8 R^2 - s^2) + r^3 (16 R^3 + 3 R s^2) + r^2 (31 R^2 s^2 - 6 s^4))}{(r^2 + 4 r R + 5 s^2)^2} \\
|X_8 X_{88}|^2 &: \frac{27 r^6 - 252 r^5 R - 40 r R s^4 + s^6 + 15 r^4 (60 R^2 + s^2) - 12 r^3 (192 R^3 + 11 R s^2) + r^2 (528 R^2 s^2 + 5 s^4)}{(3 r^2 - 15 r R + s^2)^2} \\
|X_8 X_{89}|^2 &: \frac{4 (27 r^6 - 36 r^5 R - 10 r R s^4 + s^6 + 3 r^4 (39 R^2 - 11 s^2) - 6 r^3 (24 R^3 - 7 R s^2) + r^2 (-87 R^2 s^2 + 5 s^4))}{(-6 r^2 + 3 r R + 2 s^2)^2} \\
|X_8 X_{99}|^2 &: - \frac{16 r^2 (r^3 R - R^2 s^2 + 4 r^2 (2 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)} \\
|X_8 X_{141}|^2 &: \frac{7 r^6 + 20 r^5 R - 28 r R s^4 + s^6 + 24 r^3 R (-24 R^2 + s^2) - r^4 (176 R^2 + 9 s^2) + r^2 (228 R^2 s^2 + s^4)}{4 (r^2 + 4 r R - s^2)^2} \\
|X_8 X_{142}|^2 &: \frac{7 r^4 + 20 r^3 R + 36 R^2 s^2 + 24 r R (-24 R^2 + s^2) + r^2 (-176 R^2 + 3 s^2)}{4 (r + 4 R)^2} \\
|X_8 X_{145}|^2 &: 4 (5 r^2 - 16 r R + s^2) \\
|X_8 X_{190}|^2 &: \frac{16 r^2 (2 r - R) (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_8 X_{192}|^2 &: \frac{4 (r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2))}{(r^2 + 4 r R + s^2)^2} \\
|X_8 X_{194}|^2 &: \frac{(4 (r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} + r^8 (96 R^2 + 5 s^2) + 8 r^7 (32 R^3 + 3 R s^2) + 2 r^6 (128 R^4 - 24 R^2 s^2 + 5 s^4) - 8 r^5 (32 R^3 s^2 + 3 R s^4) + 2 r^4 (128 R^2 s^4 + 5 s^6) - 8 r^3 (32 R^3 s^4 + 7 R s^6) + r^2 (144 R^2 s^6 + 5 s^8))}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_8 X_{200}|^2 &: \frac{r^2 (5 r^2 - 16 r R + s^2)}{(r - 2 R)^2} \\
|X_8 X_{210}|^2 &: \frac{-3 r^3 + 20 r^2 R + R s^2 - r (16 R^2 + s^2)}{9 R} \\
|X_8 X_{213}|^2 &: \frac{1}{(r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2} \\
&: (3 r^{10} + 44 r^9 R - 20 r R s^8 + s^{10} + r^8 (224 R^2 - 3 s^2) + 8 r^7 R (48 R^2 + s^2) - 2 r^6 (128 R^4 - 90 R^2 s^2 + 5 s^4) - 8 r^5 (128 R^5 - 36 R^3 s^2 + 9 R s^4) + r^4 (-448 R^4 s^2 + 72 R^2 s^4 + 2 s^6) + 56 r^3 (4 R^3 s^4 - R s^6) + r^2 (52 R^2 s^6 + 7 s^8)) \\
|X_8 X_{238}|^2 &: \frac{33 r^6 + 200 r^5 R - 32 r R s^4 + s^6 + r^4 (16 R^2 - 29 s^2) - 8 r^3 (128 R^3 + 3 R s^2) + r^2 (320 R^2 s^2 + 3 s^4)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_8 X_{239}|^2 &: \frac{4 (r^2 + 4 r R - s^2)^2 (5 r^2 - 16 r R + s^2)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_8 X_{244}|^2 &: \frac{r^6 - 64 r^5 R - 40 r R s^4 + s^6 - 72 r^3 R (32 R^2 + s^2) + r^4 (448 R^2 + 3 s^2) + 3 r^2 (176 R^2 s^2 + s^4)}{(r^2 - 14 r R + s^2)^2} \\
|X_8 X_{304}|^2 &: - \frac{16 r^2 R (r^7 + 16 r^6 R - R s^6 + r^5 (96 R^2 - 5 s^2) + r^4 (256 R^3 - 33 R s^2) + r^3 (256 R^4 - 24 R^2 s^2 + 3 s^4) + 2 r^2 (56 R^3 s^2 - 11 R s^4) + r (8 R^2 s^4 + s^6))}{(r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2} \\
|X_8 X_{306}|^2 &: \frac{4 r^2 (r + 2 R)^2 (5 r^2 - 16 r R + s^2)}{(-3 r^2 - 6 r R + s^2)^2} \\
|X_8 X_{312}|^2 &: - \frac{16 r^2 R (3 r^3 - 20 r^2 R - R s^2 + r (16 R^2 + s^2))}{(r^2 - 8 r R + s^2)^2} \\
|X_8 X_{319}|^2 &: - \frac{16 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^2 + 4 r R - 3 s^2)^2} \\
|X_8 X_{320}|^2 &: - \frac{144 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_8 X_{321}|^2 &: \frac{16 r^4 R (-2 r + R)}{(r^2 - 2 r R + s^2)^2} \\
|X_8 X_{345}|^2 &: \frac{16 r^2 (4 r^4 + 5 r^3 R - 12 r^2 R^2 - 16 r R^3 + r R s^2 + R^2 s^2)}{(-5 r^2 - 8 r R + s^2)^2} \\
|X_8 X_{346}|^2 &: \frac{4 r^2 (3 r^4 + 20 r^3 R - 64 r R^3 + 4 R^2 s^2 + r^2 (16 R^2 - s^2))}{(-2 r^2 - 8 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_8 X_{350}|^2 &= \frac{-\left((16 r^2 R (r^7 + 16 r^6 R - 9 R s^6 + r^5 (96 R^2 + 5 s^2) + r^4 (256 R^3 + 15 R s^2) + r^3 (256 R^4 - 120 R^2 s^2 + 7 s^4) - 2 r^2 (200 R^3 s^2 + 37 R s^4) + 3 r (56 R^2 s^4 + s^6))\right) / (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2}{1} \\
|X_9 X_{10}|^2 &= \frac{r^2 (r^2 + 8 r R + 16 R^2 - 3 s^2)}{4 (r + 4 R)^2} \\
|X_9 X_{11}|^2 &= \frac{r^4 R - 4 R^3 s^2 + 2 r^3 (6 R^2 - s^2) + r^2 (48 R^3 - 2 R s^2) + r (64 R^4 - 4 R^2 s^2)}{(2 r - R) (r + 4 R)^2} \\
|X_9 X_{12}|^2 &= \frac{-2 r^5 R + 4 R^4 s^2 - r^4 (21 R^2 + 4 s^2) - 2 r^3 (38 R^3 + 3 R s^2) + r^2 (-112 R^4 + 6 R^2 s^2) + r (-64 R^5 + 12 R^3 s^2)}{(2 r^2 + 9 r R + 4 R^2)^2} \\
|X_9 X_{20}|^2 &= \frac{3 r^4 + 36 r^3 R + 256 R^4 - 60 R^2 s^2 + r^2 (160 R^2 - s^2) + 16 r (20 R^3 - R s^2)}{(r + 4 R)^2} \\
|X_9 X_{21}|^2 &= \frac{R (-2 r^5 - 21 r^4 R + 4 R^3 s^2 + 7 r^2 R (-16 R^2 + s^2) + 8 r R^2 (-8 R^2 + s^2) + r^3 (-76 R^2 + 6 s^2))}{(2 r^2 + 11 r R + 12 R^2)^2} \\
|X_9 X_{31}|^2 &= \frac{-4 R (r^6 R - R s^6 + 3 r^5 (4 R^2 - s^2) + 2 r^4 (24 R^3 - 7 R s^2) + 4 r^3 (16 R^4 - 13 R^2 s^2 + s^4) + r^2 (-68 R^3 s^2 + 12 R s^4) + r (20 R^2 s^4 - s^6))}{(r + 4 R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
|X_9 X_{32}|^2 &= \frac{-4 R s^4 (3 r^7 + 36 r^6 R - R s^6 + r^5 (160 R^2 - 19 s^2) + r^4 (320 R^3 - 57 R s^2) + r^3 (256 R^4 - 152 R^2 s^2 + 9 s^4) - 18 r^2 (8 R^3 s^2 - R s^4) + r (24 R^2 s^4 - s^6))}{(r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2} \\
|X_9 X_{35}|^2 &= \frac{-4 R (-R^3 s^2 + r^3 (R^2 - 2 s^2) + r^2 R (8 R^2 + s^2) + r (16 R^4 - R^2 s^2))}{(2 r^2 + 9 r R + 4 R^2)^2} \\
|X_9 X_{36}|^2 &= \frac{4 R (r^3 R - R^2 s^2 + r^2 (8 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{(2 r - R) (r + 4 R)^2} \\
|X_9 X_{37}|^2 &= \frac{-4 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r + 4 R)^2 (r^2 + 4 r R + s^2)^2} \\
|X_9 X_{38}|^2 &= \frac{-4 R (2 r^7 + 33 r^6 R - R s^6 + 3 r^5 (68 R^2 - s^2) + 14 r^4 (40 R^3 - 3 R s^2) + 2 r^3 (288 R^4 - 102 R^2 s^2 + s^4) + r^2 (-228 R^3 s^2 + 24 R s^4) + r (28 R^2 s^4 - s^6))}{(r + 4 R)^2 (r^2 - 2 r R + s^2)^2} \\
|X_9 X_{39}|^2 &= \frac{4 R s^4 (r^7 + 12 r^6 R + R s^6 + r^5 (32 R^2 + 3 s^2) - r^4 (64 R^3 + 23 R s^2) + r^3 (-256 R^4 + 88 R^2 s^2 + 3 s^4) + 18 r^2 (8 R^3 s^2 - R s^4) + r (-24 R^2 s^4 + s^6))}{(r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
|X_9 X_{40}|^2 &= \frac{4 R^2 (r^2 + 8 r R + 16 R^2 - 3 s^2)}{(r + 4 R)^2} \\
|X_9 X_{41}|^2 &= \frac{-4 R s^4 (2 r^5 + 21 r^4 R - 4 R^3 s^2 + r^3 (76 R^2 - 6 s^2) + 7 r^2 (16 R^3 - R s^2) + 8 r (8 R^4 - R^2 s^2))}{(r + 4 R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2} \\
|X_9 X_{42}|^2 &= \frac{-4 R (r^6 R - R s^6 + r^5 (12 R^2 - s^2) + 4 r^2 R s^2 (15 R^2 + s^2) + 2 r^4 (24 R^3 + 5 R s^2) + r^3 (64 R^4 + 44 R^2 s^2 - 2 s^4) + r (12 R^2 s^4 - s^6))}{(r + 4 R)^2 (r^2 - 2 r R + s^2)^2} \\
|X_9 X_{43}|^2 &= \frac{4 R (r^7 + 12 r^6 R + 3 r^3 s^4 - 10 r^2 R s^4 + R s^6 + 3 r^5 (16 R^2 + s^2) + r^4 (64 R^3 - 15 R s^2) + r (-16 R^2 s^4 + s^6))}{(r + 4 R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_9 X_{44}|^2 &= \frac{-4 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r + 4 R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_9 X_{45}|^2 &= \frac{-4 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r + 4 R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_9 X_{46}|^2 &= \frac{-4 R^2 (r^3 R - R^2 s^2 + 4 r^2 (2 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{(r^2 + 3 r R - 4 R^2)^2} \\
|X_9 X_{55}|^2 &= \frac{R (-r^4 R + 4 R^3 s^2 + 2 r^3 (-6 R^2 + s^2) + r^2 (-48 R^3 + 2 R s^2) + r (-64 R^4 + 4 R^2 s^2))}{(r^2 + 5 r R + 4 R^2)^2} \\
|X_9 X_{56}|^2 &= \frac{R (3 r^4 R + 4 R^3 s^2 + 2 r^3 (10 R^2 + s^2) + 2 r^2 (8 R^3 - 5 R s^2) + r (-64 R^4 + 4 R^2 s^2))}{(r^2 + 3 r R - 4 R^2)^2} \\
|X_9 X_{57}|^2 &= \frac{-4 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 + r^2 (48 R^2 + 5 s^2) + 8 r (8 R^3 - R s^2))}{(r^2 + 2 r R - 8 R^2)^2} \\
|X_9 X_{58}|^2 &= \frac{4 R (r^6 R - 8 r^2 R s^4 + R s^6 + 4 r^4 R (4 R^2 + s^2) + r^5 (8 R^2 + 3 s^2) + 4 r^3 (4 R^2 s^2 - s^4) + r (-16 R^2 s^4 + s^6))}{(r + 4 R)^2 (-3 r^2 - 4 r R + s^2)^2} \\
|X_9 X_{63}|^2 &= \frac{-R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 + r^2 (48 R^2 + 5 s^2) + 8 r (8 R^3 - R s^2))}{(r^2 + 5 r R + 4 R^2)^2}
\end{aligned}$$

$$|X_9X_{65}|^2: \frac{-2r^5-21r^4R-76r^3R^2+4R^3s^2+2r^2R(-56R^2+s^2)+r(-64R^4+12R^2s^2)}{R(r+4R)^2}$$

$$|X_9X_{69}|^2: -\frac{1}{(r+4R)^2(r^2+4rR-s^2)^2}(r^8+20r^7R+32rR^3s^4-4R^2s^6+64r^5R(10R^2+s^2)+r^6(160R^2+7s^2)+r^4(1280R^4+204R^2s^2-9s^4)+4r^3(256R^5+88R^3s^2-13R^4s^4)+r^2(448R^4s^2-56R^2s^4+s^6))$$

$$|X_9X_{72}|^2: -\frac{(r+2R)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{R(r+4R)^2}$$

$$|X_9X_{75}|^2: -\frac{1}{(r+4R)^2(r^2+4rR+s^2)^2}(r^8+20r^7R+640r^5R^3+96rR^3s^4-4R^2s^6+r^6(160R^2+3s^2)+r^4(1280R^4-180R^2s^2+3s^4)+4r^3(256R^5-168R^3s^2+3R^4s^4)+r^2(-576R^4s^2+24R^2s^4+s^6))$$

$$|X_9X_{76}|^2: -\left((r^{12}+28r^{11}R+64rR^3s^8-4R^2s^{10}+r^{10}(336R^2+5s^2)+8r^9(280R^3+9R^2s^2)+r^2s^6(128R^4-16R^2s^2+s^4)+2r^8(4480R^4+174R^2s^2+5s^4)+16r^7(1344R^5+28R^3s^2+3R^4s^4)-8r^5R(-2048R^6+384R^4s^2+176R^2s^4+s^6)+2r^6(14336R^6-576R^4s^2-96R^2s^4+5s^6)-r^4(1024R^6s^2+2560R^4s^4-40R^2s^6-5s^8)-4r^3(512R^5s^4-48R^3s^6+3R^4s^8))\right)/\left((r+4R)^2(r^4+8r^3R-8rR^2s^2+s^4+2r^2(8R^2+s^2))^2\right)$$

$$|X_9X_{78}|^2: \frac{R(-2r^5-21r^4R+4R^3s^2+7r^2R(-16R^2+s^2)+8rR^2(-8R^2+s^2)+r^3(-76R^2+6s^2))}{(r^2+3rR-4R^2)^2}$$

$$|X_9X_{79}|^2: -\frac{4(r+3R)^2(r^3R-R^2s^2+4r^2(2R^2+s^2)+r(16R^3-3R^2s^2))}{(2r^2+11rR+12R^2)^2}$$

$$|X_9X_{80}|^2: \frac{4(r+R)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(2r-R)(r+4R)^2}$$

$$|X_9X_{81}|^2: -\frac{R(r^6R-4R^3s^2+2r^5(6R^2+s^2)+r^4(48R^3+29R^2s^2)+r^3(64R^4+88R^2s^2+6s^4)+4r^2(31R^3s^2+5R^4s^4)+r(56R^2s^4-4s^6))}{(r+4R)^2(r^2+rR-s^2)^2}$$

$$|X_9X_{83}|^2: (-r^{12}-28r^{11}R+36R^2s^{10}+48rR^3s^8(-20R^2+s^2)+r^{10}(-336R^2+3s^2)-40r^9(56R^3-3R^2s^2)+r^2s^6(7552R^4-912R^2s^2-9s^4)-32r^7R(672R^4-306R^2s^2+s^4)+r^8(-8960R^4+1572R^2s^2+6s^4)-2r^6(14336R^6-15936R^4s^2+784R^2s^4+5s^6)-8r^5(2048R^7-6528R^5s^2+1376R^3s^4-19R^4s^6)+r^4(33792R^6s^2-28672R^4s^4+1976R^2s^6-21s^8)-12r^3(2048R^5s^4-624R^3s^6+11R^4s^8))\right)/\left((r+4R)^2(5r^4+40r^3R-40rR^2s^2+5s^4+r^2(80R^2-6s^2))^2\right)$$

$$|X_9X_{85}|^2: -\frac{1}{(r+4R)^2(r^2+8rR+16R^2+s^2)^2}(r^8+28r^7R+32r^5R(70R^2+s^2)+3r^6(112R^2+s^2)-4(-16R^3s+R^3s^3)^2+256rR^3(64R^4-20R^2s^2+s^4)+r^4(8960R^4+28R^2s^2+3s^4)+4r^3(5376R^5-208R^3s^2+9R^4s^4)+r^2(28672R^6-3712R^4s^2+152R^2s^4+s^6))$$

$$|X_9X_{86}|^2: -\frac{1}{(r+4R)^2(r^2+4rR+5s^2)^2}(r^8+20r^7R-36R^2s^6-48rR^3s^4(-10R^2+s^2)+128r^5R(5R^2+s^2)+r^6(160R^2+11s^2)+r^4(1280R^4+588R^2s^2+19s^4)+4r^3(256R^5+344R^3s^2+23R^4s^4)+r^2(1472R^4s^2+184R^2s^4+9s^6))$$

$$\begin{aligned}
|X_9X_{88}|^2 &: \frac{1}{(r+4R)^2(3r^2-15rR+s^2)^2} \\
&R(-81r^6R+4Rs^6+18r^5(-54R^2+s^2)+4r^4(-34R^2+s^2)-27r^4(144R^3+7Rs^2)+ \\
&\quad r^3(-5184R^4+1512R^2s^2+14s^4)+4r^2(369R^3s^2-35Rs^4)) \\
|X_9X_{89}|^2 &: -\frac{R(81r^6R-16Rs^6+36r^5(27R^2+s^2)+27r^4(144R^3+31Rs^2)+4r^3(1296R^4+270R^2s^2+13s^4)+44r^2(45R^3s^2-2Rs^4)+16r(7R^2s^4-s^6))}{(r+4R)^2(-6r^2+3rR+2s^2)^2} \\
|X_9X_{99}|^2 &: -\left((r^8+20r^7R+32r^3R^3s^4-4R^2s^6+16r^5R(40R^2+s^2)+r^6(160R^2+3s^2)+r^4(1280R^4+12R^2s^2+3s^4)+4r^3(256R^5+24R^3s^2+7Rs^4)+r^2(448R^4s^2-72R^2s^4+s^6))\right) / \\
&\quad \left((r+4R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))\right) \\
|X_9X_{141}|^2 &: -\frac{r^2(r^6+20r^5R-64R^4s^2+3s^6+32r^3R(20R^2+s^2)+5r^4(32R^2+s^2)+r^2(1280R^4+12R^2s^2-9s^4)+4r(256R^5-40R^3s^2-9Rs^4))}{4(r+4R)^2(r^2+4rR-s^2)^2} \\
|X_9X_{142}|^2 &: -\frac{r^4+12r^3R-4R^2s^2-8rR(-8R^2+s^2)+r^2(48R^2+5s^2)}{4(r+4R)^2} \\
|X_9X_{145}|^2 &: \frac{7r^4+20r^3R+36R^2s^2+24rR(-24R^2+s^2)+r^2(-176R^2+3s^2)}{(r+4R)^2} \\
|X_9X_{190}|^2 &: -\frac{1}{(r+4R)^2(-3r^2-12rR+s^2)^2} \\
&(r^8+20r^7R+640r^5R^3+96r^3R^3s^4-4R^2s^6+r^6(160R^2+3s^2)+r^4(1280R^4-180R^2s^2+3s^4)+ \\
&\quad 4r^3(256R^5-168R^3s^2+3Rs^4)+r^2(-576R^4s^2+24R^2s^4+s^6)) \\
|X_9X_{192}|^2 &: \frac{1}{(r+4R)^2(r^2+4rR+s^2)^2} \\
&(-r^8-20r^7R+36R^2s^6+r^6(-160R^2+s^2)+24rRs^4(-28R^2+s^2)+ \\
&\quad 64r^5R(-10R^2+s^2)+r^4(-1280R^4+564R^2s^2+5s^4)- \\
&\quad 4r^3(256R^5-424R^3s^2+5Rs^4)+r^2(1600R^4s^2-328R^2s^4+3s^6)) \\
|X_9X_{194}|^2 &: (-r^{12}-28r^{11}R+36R^2s^{10}+24rRs^8(-32R^2+s^2)-8r^9R(280R^2+s^2)-r^{10}(336R^2+s^2)+ \\
&\quad r^2s^6(2944R^4-384R^2s^2+3s^4)+r^8(-8960R^4-28R^2s^2+6s^4)- \\
&\quad 8r^7(2688R^5+56R^3s^2-5Rs^4)+r^6(-28672R^6-3968R^4s^2+496R^2s^4+14s^6)- \\
&\quad 16r^5(1024R^7+832R^5s^2-236R^3s^4-Rs^6)+ \\
&\quad r^4(-15360R^6s^2+8960R^4s^4-232R^2s^6+11s^8)+4r^3(768R^5s^4+304R^3s^6+5Rs^8)) / \\
&\quad ((r+4R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2) \\
|X_9X_{200}|^2 &: -\frac{4R(r^4R-4R^3s^2+2r^3(6R^2-s^2)+r^2(48R^3-2Rs^2)+r(64R^4-4R^2s^2))}{(r^2+2rR-8R^2)^2} \\
|X_9X_{210}|^2 &: \frac{-r^4R+4R^3s^2+2r^3(-6R^2+s^2)+r^2(-48R^3+2Rs^2)+r(-64R^4+4R^2s^2)}{9R(r+4R)^2} \\
|X_9X_{213}|^2 &: -\frac{4Rs^4(r^2+s^2)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(r+4R)^2(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2} \\
|X_9X_{238}|^2 &: -\frac{4R(r^2+4rR-s^2)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(r+4R)^2(-3r^2-12rR+s^2)^2} \\
|X_9X_{239}|^2 &: \frac{1}{(r+4R)^2(-3r^2-12rR+s^2)^2} \\
&(-r^8-20r^7R+36R^2s^6+r^6(-160R^2+s^2)+24rRs^4(-28R^2+s^2)+ \\
&\quad 64r^5R(-10R^2+s^2)+r^4(-1280R^4+564R^2s^2+5s^4)- \\
&\quad 4r^3(256R^5-424R^3s^2+5Rs^4)+r^2(1600R^4s^2-328R^2s^4+3s^6))
\end{aligned}$$

$$\begin{aligned}
& |X_9 X_{244}|^2: \\
& \quad - \frac{4R(4r^7 + 73r^6R - R^2s^6 + r^5(492R^2 - 3s^2) + 2r^4(728R^3 - 15R^2s^2) + 20r^3(80R^4 - 21R^2s^2) + r^2(-420R^3s^2 + 36R^2s^4) + r(36R^2s^4 - s^6))}{(r+4R)^2(r^2 - 14rR + s^2)^2} \\
& |X_9 X_{304}|^2: \\
& \quad (-r^{12} - 28r^{11}R - 64r^8R^3s^8 + 4R^2s^{10} + 8r^9R(-280R^2 + s^2) - r^{10}(336R^2 + s^2) - \\
& \quad r^2s^6(-128R^4 + s^4) - 48r^7R(448R^4 - 44R^2s^2 + s^4) + r^8(-8960R^4 + 292R^2s^2 + 2s^4) + \\
& \quad r^6(-28672R^6 + 6272R^4s^2 - 592R^2s^4 + 2s^6) - 8r^5(2048R^7 - 896R^5s^2 + 256R^3s^4 - 7R^2s^6) + \\
& \quad r^4(1024R^6s^2 - 2816R^4s^4 + 248R^2s^6 - s^8) + r^3(-2048R^5s^4 + 448R^3s^6 + 12R^2s^8)) / \\
& \quad ((r+4R)^2(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2) \\
& |X_9 X_{306}|^2: \\
& \quad - \frac{1}{(r+4R)^2(-3r^2 - 6rR + s^2)^2} (r^8 + 16r^7R + 48r^6R^3s^4 - 4R^2s^6 + r^6(100R^2 + 7s^2) + 8r^5(38R^3 + 5R^2s^2) + \\
& \quad r^4(448R^4 + 128R^2s^2 - 9s^4) + 8r^3(32R^5 + 34R^3s^2 - 5R^2s^4) + r^2(240R^4s^2 - 40R^2s^4 + s^6)) \\
& |X_9 X_{312}|^2: \\
& \quad - \frac{r^8 - 12r^7R - 64r^6R^3s^4 + 4R^2s^6 + 32r^5R(-2R^2 + s^2) - 3r^6(16R^2 + s^2) + r^4(100R^2s^2 - 3s^4) + 4r^3(32R^3s^2 + 3R^2s^4) + r^2(8R^2s^4 - s^6)}{(r+4R)^2(r^2 - 8rR + s^2)^2} \\
& |X_9 X_{319}|^2: \\
& \quad - \frac{1}{(r+4R)^2(r^2 + 4rR - 3s^2)^2} (r^8 + 20r^7R + 480r^6R^3s^4 - 36R^2s^6 + \\
& \quad 128r^5R(5R^2 + s^2) + r^6(160R^2 + 11s^2) + r^4(1280R^4 + 588R^2s^2 - 45s^4) + \\
& \quad 4r^3(256R^5 + 344R^3s^2 - 69R^2s^4) + r^2(1472R^4s^2 - 264R^2s^4 + 9s^6)) \\
& |X_9 X_{320}|^2: \\
& \quad - \frac{1}{(r+4R)^2(-3r^2 - 12rR + s^2)^2} (9r^8 + 180r^7R - 32r^6R^3s^4 - 4R^2s^6 + \\
& \quad 384r^5R(15R^2 + s^2) + 3r^6(480R^2 + 17s^2) + 3r^4(3840R^4 + 228R^2s^2 - 7s^4) + \\
& \quad 4r^3(2304R^5 + 24R^3s^2 - 29R^2s^4) + r^2(960R^4s^2 - 136R^2s^4 + s^6)) \\
& |X_9 X_{321}|^2: \\
& \quad \frac{1}{(r+4R)^2(r^2 - 2rR + s^2)^2} \\
& \quad (-r^8 - 16r^7R - 80r^6R^3s^4 + 4R^2s^6 + 16r^5R(-19R^2 + s^2) - r^6(100R^2 + 3s^2) + \\
& \quad r^3(-256R^5 + 368R^3s^2) + r^4(-448R^4 + 160R^2s^2 - 3s^4) + r^2(272R^4s^2 - 8R^2s^4 - s^6)) \\
& |X_9 X_{345}|^2: \\
& \quad - \frac{r^8 + 12r^7R + 64r^6R^3s^4 - 4R^2s^6 + 16r^5R(4R^2 + s^2) + r^6(48R^2 + 7s^2) + r^4(92R^2s^2 - 9s^4) + 4r^3(32R^3s^2 - 7R^2s^4) + r^2(-24R^2s^4 + s^6)}{(r+4R)^2(-5r^2 - 8rR + s^2)^2} \\
& |X_9 X_{346}|^2: \\
& \quad \frac{s^4(3r^4 + 20r^3R - 64r^2R^3 + 4R^2s^2 + r^2(16R^2 - s^2))}{(r+4R)^2(-2r^2 - 8rR + s^2)^2} \\
& |X_9 X_{350}|^2: \\
& \quad - \left((r^{12} + 28r^{11}R - 4R^2s^{10} + 56r^9R(40R^2 + s^2) + r^{10}(336R^2 + 5s^2) + 192r^7(112R^5 - 11R^3s^2) + \right. \\
& \quad r^2s^6(896R^4 - 48R^2s^2 + s^4) + 2r^8(4480R^4 + 14R^2s^2 + 5s^4) + 2r^6 \\
& \quad (14336R^6 - 5696R^4s^2 - 240R^2s^4 + 5s^6) + 8r^5(2048R^7 - 2944R^5s^2 - 136R^3s^4 - 7R^2s^6) + \\
& \quad r^4(-17408R^6s^2 + 1536R^4s^4 + 40R^2s^6 + 5s^8) + 4r^3(768R^5s^4 + 48R^3s^6 - 7R^2s^8)) / \\
& \quad \left((r+4R)^2(r^4 + 8r^3R - 16r^2R^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
& |X_{10} X_{11}|^2: \\
& \quad - \frac{R(5r^2 - 16rR + s^2)}{8r - 4R} \\
& |X_{10} X_{12}|^2: \\
& \quad \frac{R(-6r^3 - 19r^2R + R^2s^2 + 2r(-8R^2 + s^2))}{4(2r+R)^2} \\
& |X_{10} X_{20}|^2: \\
& \quad \frac{1}{4} (21r^2 + 64rR + 64R^2 - 15s^2) \\
& |X_{10} X_{21}|^2: \\
& \quad \frac{(2r-R)(6r^3 + 19r^2R + 16rR^2 - 2r^2s^2 - R^2s^2)}{4(2r+3R)^2} \\
& |X_{10} X_{31}|^2: \\
& \quad \frac{21r^6 + 108r^5R - 20r^4R^2s^4 + s^6 + r^4(116R^2 - 37s^2) - 8r^3(8R^3 + 5R^2s^2) + r^2(68R^2s^2 + 7s^4)}{4(-3r^2 - 6rR + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{10}X_{32}|^2 &: \frac{(r^{10} + 16r^9R - 24rRs^8 + s^{10} + 3r^8(32R^2 - 9s^2) + 8r^7(32R^3 - 33Rs^2) + 2r^6(128R^4 - 408R^2s^2 + 69s^4) - 8r^5(96R^3s^2 - 61Rs^4) + r^4(256R^2s^4 - 86s^6) - 8r^3(32R^3s^4 + 3Rs^6) + r^2(144R^2s^6 + 5s^8))}{4(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 3s^2))^2} \\
|X_{10}X_{35}|^2 &: \frac{(2r-R)(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{4(2r+R)^2} \\
|X_{10}X_{36}|^2 &: \frac{6r^3+3r^2R+16rR^2-2rs^2-Rs^2}{8r-4R} \\
|X_{10}X_{37}|^2 &: \frac{r^6+8r^5R+24r^3Rs^2+3r^2s^4-16rRs^4+s^6+r^4(16R^2+3s^2)}{4(r^2+4rR+s^2)^2} \\
|X_{10}X_{38}|^2 &: \frac{-3r^6-44r^5R-28rRs^4+s^6-r^4(236R^2+5s^2)-8r^3(72R^3-7Rs^2)+r^2(228R^2s^2-s^4)}{4(r^2-2rR+s^2)^2} \\
|X_{10}X_{39}|^2 &: \frac{(r^{10} + 16r^9R - 24rRs^8 + s^{10} + r^8(96R^2 + 5s^2) + 8r^7(32R^3 + 3Rs^2) + 2r^6(128R^4 - 24R^2s^2 + 5s^4) - 8r^5(32R^3s^2 + 3Rs^4) + 2r^4(128R^2s^4 + 5s^6) - 8r^3(32R^3s^4 + 7Rs^6) + r^2(144R^2s^6 + 5s^8))}{4(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_{10}X_{40}|^2 &: \frac{1}{4}(r^2 + 8rR + 16R^2 - 3s^2) \\
|X_{10}X_{41}|^2 &: \frac{(r^8 + 16r^7R + 4R^2s^6 + r^6(96R^2 - 17s^2) + 4r^5(64R^3 - 39Rs^2) + r^4(256R^4 - 432R^2s^2 + 43s^4) + r^3(-320R^3s^2 + 88Rs^4) - r^2(28R^2s^4 + 3s^6) + r(-64R^3s^4 + 4Rs^6))}{4(r^3 + 8r^2R + 16rR^2 - 3rs^2 - 2Rs^2)^2} \\
|X_{10}X_{42}|^2 &: \frac{(5r^2-16rR+s^2)(r^2+2rR+s^2)^2}{4(r^2-2rR+s^2)^2} \\
|X_{10}X_{43}|^2 &: \frac{(r^2+s^2)^2(5r^2-16rR+s^2)}{4(r^2-8rR+s^2)^2} \\
|X_{10}X_{44}|^2 &: \frac{9r^6+72r^5R-72r^3Rs^2+11r^2s^4-16rRs^4+s^6+9r^4(16R^2-5s^2)}{4(-3r^2-12rR+s^2)^2} \\
|X_{10}X_{45}|^2 &: \frac{9r^6+72r^5R+72r^3Rs^2-r^2s^4-16rRs^4+s^6+9r^4(16R^2-s^2)}{4(3r^2+12rR+s^2)^2} \\
|X_{10}X_{46}|^2 &: \frac{r^4+2r^3R+R^2s^2+2rR(-8R^2+s^2)-3r^2(R^2+s^2)}{4(r-R)^2} \\
|X_{10}X_{55}|^2 &: \frac{3r^4+12r^3R-16rR^3+R^2s^2+r^2(5R^2-s^2)}{4(r+R)^2} \\
|X_{10}X_{56}|^2 &: \frac{3r^4-4r^3R-16rR^3+R^2s^2+r^2(13R^2-s^2)}{4(r-R)^2} \\
|X_{10}X_{57}|^2 &: \frac{r^4-4r^3R+4R^2s^2-3r^2(4R^2+s^2)+r(-64R^3+4Rs^2)}{4(r-2R)^2} \\
|X_{10}X_{58}|^2 &: \frac{21r^6+64r^5R-16r^3Rs^2+7r^2s^4-16rRs^4+s^6+r^4(64R^2-37s^2)}{4(-3r^2-4rR+s^2)^2} \\
|X_{10}X_{63}|^2 &: \frac{r^4+2r^3R+R^2s^2+2rR(-8R^2+s^2)-3r^2(R^2+s^2)}{4(r+R)^2} \\
|X_{10}X_{65}|^2 &: \frac{-6r^3-19r^2R+Rs^2+2r(-8R^2+s^2)}{4R} \\
|X_{10}X_{69}|^2 &: \frac{-3r^6-40r^5R-8rRs^4+s^6-16r^3R(16R^2+s^2)-r^4(176R^2+9s^2)+r^2(-112R^2s^2+11s^4)}{4(r^2+4rR-s^2)^2} \\
|X_{10}X_{72}|^2 &: \frac{-6r^3-19r^2R+Rs^2+2r(-8R^2+s^2)}{4R} \\
|X_{10}X_{75}|^2 &: \frac{-3r^6-40r^5R-24rRs^4+s^6-r^4(176R^2+5s^2)-64r^3(4R^3-Rs^2)+r^2(144R^2s^2-s^4)}{4(r^2+4rR+s^2)^2} \\
|X_{10}X_{76}|^2 &: -\frac{(r^2+4rR+s^2)^2(3r^6+40r^5R+24rRs^4-s^6+r^4(176R^2+5s^2)+64r^3(4R^3-Rs^2)+r^2(-144R^2s^2+s^4))}{4(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2}
\end{aligned}$$

$$\begin{aligned}
|X_{10}X_{78}|^2 &: \frac{(r+R)^2 (5r^2-16rR+s^2)}{4(r-R)^2} \\
|X_{10}X_{79}|^2 &: -\frac{4r^4+40r^3R-9R^2s^2+r^2(123R^2+20s^2)+24r(6R^3-Rs^2)}{4(2r+3R)^2} \\
|X_{10}X_{80}|^2 &: \frac{6r^3+19r^2R+16rR^2-2rs^2-Rs^2}{8r-4R} \\
|X_{10}X_{81}|^2 &: \frac{r^6+2r^5R-14rRs^4+s^6-3r^4(R^2+3s^2)-4r^3(4R^3+3Rs^2)+r^2(-31R^2s^2+7s^4)}{4(r^2+rR-s^2)^2} \\
|X_{10}X_{83}|^2 &: \frac{(r^2+4rR-3s^2)^2(21r^6+152r^5R-24rRs^4+s^6+r^4(208R^2-37s^2)-64r^3R(4R^2+s^2)+r^2(144R^2s^2+7s^4))}{4(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2} \\
|X_{10}X_{85}|^2 &: -\frac{3r^6+64r^5R-16r^3R(-144R^2+s^2)+r^4(544R^2+5s^2)-(-16R^2s+s^3)^2+r^2(4864R^4-384R^2s^2+s^4)+16r(256R^5-64R^3s^2+3Rs^4)}{4(r^2+8rR+16R^2+s^2)^2} \\
|X_{10}X_{86}|^2 &: -\frac{3r^6+40r^5R+120rRs^4-9s^6+r^4(176R^2+13s^2)+32r^3(8R^3+3Rs^2)+r^2(368R^2s^2-63s^4)}{4(r^2+4rR+5s^2)^2} \\
|X_{10}X_{88}|^2 &: \frac{9r^6-90r^5R-34rRs^4+s^6-9r^4(11R^2+s^2)-36r^3(36R^3-Rs^2)+r^2(369R^2s^2-s^4)}{4(3r^2-15rR+s^2)^2} \\
|X_{10}X_{89}|^2 &: \frac{36r^6-36r^5R-1296r^3R^3-28rRs^4+4s^6-45r^4(7R^2+4s^2)+r^2(-495R^2s^2+44s^4)}{4(-6r^2+3rR+2s^2)^2} \\
|X_{10}X_{99}|^2 &: \frac{-3r^6-40r^5R-8rRs^4+s^6-r^4(176R^2+53s^2)-16r^3(16R^3+3Rs^2)+r^2(-112R^2s^2+15s^4)}{4(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
|X_{10}X_{141}|^2 &: \frac{r^2R(-r^3-8r^2R+Rs^2+r(-16R^2+s^2))}{(r^2+4rR-s^2)^2} \\
|X_{10}X_{142}|^2 &: \frac{R(-r^3-8r^2R+Rs^2+r(-16R^2+s^2))}{(r+4R)^2} \\
|X_{10}X_{145}|^2 &: \frac{9}{4}(5r^2-16rR+s^2) \\
|X_{10}X_{190}|^2 &: \frac{5r^6+24r^5R-24rRs^4+s^6-3r^4(16R^2+23s^2)-64r^3(4R^3-3Rs^2)+9r^2(16R^2s^2-s^4)}{4(-3r^2-12rR+s^2)^2} \\
|X_{10}X_{192}|^2 &: \frac{-3r^6-40r^5R-168rRs^4+9s^6+r^4(-176R^2+3s^2)+r^3(-256R^3+304Rs^2)+5r^2(80R^2s^2+3s^4)}{4(r^2+4rR+s^2)^2} \\
|X_{10}X_{194}|^2 &: -\left((3r^{10}+64r^9R+2304r^7R^3+192rRs^8-9s^{10}+r^8(544R^2+3s^2)+512r^5(8R^5+3R^3s^2)+\right. \\
&\quad \left.2r^6(2432R^4+48R^2s^2-9s^4)+6r^4(640R^4s^2-368R^2s^4-7s^6)-256r^3(3R^3s^4-Rs^6)-\right. \\
&\quad \left.r^2(736R^2s^6+33s^8)) / (4(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2)\right) \\
|X_{10}X_{200}|^2 &: \frac{(r+2R)^2(5r^2-16rR+s^2)}{4(r-2R)^2} \\
|X_{10}X_{210}|^2 &: \frac{-6r^3-19r^2R+Rs^2+2r(-8R^2+s^2)}{36R} \\
|X_{10}X_{213}|^2 &: \left(r^{10}+16r^9R-48r^3Rs^6+9r^2s^8-16rRs^8+s^{10}+r^8(96R^2-7s^2)+16r^7(16R^3-3Rs^2)+\right. \\
&\quad \left.2r^6(128R^4-24R^2s^2-5s^4)+32r^5(4R^3s^2-3Rs^4)+r^4(-80R^2s^4+6s^6)) / \right. \\
&\quad \left.(4(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2)\right) \\
|X_{10}X_{238}|^2 &: \frac{21r^6+152r^5R-24rRs^4+s^6+r^4(208R^2-37s^2)-64r^3R(4R^2+s^2)+r^2(144R^2s^2+7s^4)}{4(-3r^2-12rR+s^2)^2} \\
|X_{10}X_{239}|^2 &: \frac{(r^2+4rR-3s^2)^2(5r^2-16rR+s^2)}{4(-3r^2-12rR+s^2)^2} \\
|X_{10}X_{244}|^2 &: \frac{-3r^6-52r^5R-36rRs^4+s^6-r^4(236R^2+5s^2)-40r^3(40R^3-Rs^2)+r^2(420R^2s^2-s^4)}{4(r^2-14rR+s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{10}X_{304}|^2 &: \frac{(-3r^{10} - 64r^9R - 16rRs^8 + s^{10} + r^8(-544R^2 + s^2) - 16r^7(144R^3 - 7Rs^2) + r^6(-4864R^4 + 864R^2s^2 + 6s^4) - 16r^5(256R^5 - 112R^3s^2 + 11Rs^4) + r^4(256R^4s^2 - 352R^2s^4 - 2s^6) - 16r^3(32R^3s^4 - 9Rs^6) + r^2(32R^2s^6 - 3s^8))}{(4(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4))^2} \\
|X_{10}X_{306}|^2 &: \frac{(5r^2 - 16rR + s^2)(r^2 + 2rR + s^2)^2}{4(-3r^2 - 6rR + s^2)^2} \\
|X_{10}X_{312}|^2 &: \frac{-3r^6 - 32r^5R + 80r^3Rs^2 - r^2s^4 - 16rRs^4 + s^6 + r^4(64R^2 - 5s^2)}{4(r^2 - 8rR + s^2)^2} \\
|X_{10}X_{319}|^2 &: \frac{-3r^6 + 40r^5R + 120rRs^4 - 9s^6 + r^4(176R^2 + 13s^2) + 32r^3(8R^3 + 3Rs^2) + r^2(368R^2s^2 - 63s^4)}{4(r^2 + 4rR - 3s^2)^2} \\
|X_{10}X_{320}|^2 &: \frac{-27r^6 - 360r^5R + 8rRs^4 + s^6 - 3r^4(528R^2 + 23s^2) - 96r^3(24R^3 - Rs^2) + r^2(-240R^2s^2 + 23s^4)}{4(-3r^2 - 12rR + s^2)^2} \\
|X_{10}X_{321}|^2 &: \frac{-3r^6 - 36r^5R - 20rRs^4 + s^6 - r^4(76R^2 + 5s^2) - 8r^3(8R^3 - 9Rs^2) + r^2(68R^2s^2 - s^4)}{4(r^2 - 2rR + s^2)^2} \\
|X_{10}X_{345}|^2 &: \frac{21r^6 + 64r^5R + 16r^3Rs^2 + 3r^2s^4 - 16rRs^4 + s^6 + r^4(64R^2 + 7s^2)}{4(-5r^2 - 8rR + s^2)^2} \\
|X_{10}X_{346}|^2 &: \frac{4r^6 + 32r^5R + 64r^4R^2 + 48r^3Rs^2 + r^2s^4 - 16rRs^4 + s^6}{4(-2r^2 - 8rR + s^2)^2} \\
|X_{10}X_{350}|^2 &: \frac{(-3r^{10} - 64r^9R + s^{10} + 64r^3Rs^4(-12R^2 + s^2) - 64r^7R(36R^2 + s^2) - r^8(544R^2 + 11s^2) - 2r^6(2432R^4 - 144R^2s^2 + 7s^4) - 64r^5(64R^5 - 40R^3s^2 - Rs^4) + r^4(4352R^4s^2 + 864R^2s^4 - 6s^6) + r^2(-224R^2s^6 + s^8))}{(4(r^4 + 8r^3R - 16rRs^2 + s^4 + 2r^2(8R^2 + s^2)))^2} \\
|X_{11}X_{12}|^2 &: \frac{4r^2R^2}{(2r+R)^2} \\
|X_{11}X_{20}|^2 &: \frac{9r^3 + 36r^2R + 32rR^2 - 16R^3 - 9rRs^2 + 3Rs^2}{2r-R} \\
|X_{11}X_{21}|^2 &: \frac{4r^5 + 24r^4R - R^3s^2 + r^3(51R^2 - 4s^2) + r^2(44R^3 - 4Rs^2) + r(16R^4 - 3R^2s^2)}{(2r-R)(2r+3R)^2} \\
|X_{11}X_{31}|^2 &: \frac{r^2(6r^5 + 57r^4R - 4R^3s^2 + Rs^4 + 4r^3(43R^2 - 5s^2) + 2r^2(88R^3 - 27Rs^2) + r(64R^4 - 44R^2s^2 + 6s^4))}{(2r-R)(-3r^2 - 6rR + s^2)^2} \\
|X_{11}X_{32}|^2 &: \frac{(r^2(r^8R - 4R^3s^6 + Rs^8 + 4r^7(5R^2 - 2s^2) + 4r^6(40R^3 - 27Rs^2) + r^5(640R^4 - 564R^2s^2 + 56s^4) + 2r^4(640R^5 - 706R^3s^2 + 179Rs^4) + 4r^3(256R^6 - 408R^4s^2 + 175R^2s^4 - 14s^6) - 4r^2(144R^5s^2 - 134R^3s^4 + 27Rs^6) + r(96R^4s^4 - 60R^2s^6 + 8s^8)))}{((2r-R)(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 3s^2)))^2} \\
|X_{11}X_{35}|^2 &: \frac{r^2(4r^3 + 26r^2R + 42rR^2 - R^3 - 4rRs^2 - 2Rs^2)}{(2r-R)(2r+R)^2} \\
|X_{11}X_{36}|^2 &: \frac{r^2(2r^2 + 8rR + 9R^2 - 2s^2)}{(-2r+R)^2} \\
|X_{11}X_{37}|^2 &: \frac{r^2R(r^4 + 12r^3R - 4R^2s^2 - 3s^4 + 2r^2(24R^2 + 7s^2) + 4r(16R^3 + 7Rs^2))}{(2r-R)(r^2 + 4rR + s^2)^2} \\
|X_{11}X_{38}|^2 &: \frac{-r^2(2r^5 + 27r^4R + 4R^3s^2 + 3Rs^4 + 4r^3(29R^2 + s^2) + 2r^2(72R^3 - 17Rs^2) + r(-64R^4 - 52R^2s^2 + 2s^4))}{(2r-R)(r^2 - 2rR + s^2)^2} \\
|X_{11}X_{39}|^2 &: \frac{(r^2R(r^8 + 20r^7R - 4R^2s^6 + s^8 + 4r^6(40R^2 + s^2) + 4r^5(160R^3 + 3Rs^2) + 4r^2s^2(-144R^4 + 38R^2s^2 + s^4) + 2r^4(640R^4 - 66R^2s^2 + 3s^4) + 4r^3(256R^5 - 152R^3s^2 + 23Rs^4) + 4r(24R^3s^4 - 7Rs^6)))}{((2r-R)(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2)))^2}
\end{aligned}$$

$$\begin{aligned}
|X_{11}X_{40}|^2 &: \frac{3r^2R+20rR^2-4R^3-2rs^2}{2r-R} \\
|X_{11}X_{41}|^2 &: \left(r^2 \left(r^6R + r^5 (20R^2 - 6s^2) + 2r (32R^2 - 3s^2) (-4R^2 + s^2)^2 + 2r^4 (80R^3 - 37R^2s^2) - \right. \right. \\
&\quad \left. \left. 4R (-4R^2s + s^3)^2 + 20r^3 (32R^4 - 17R^2s^2 + s^4) + r^2 (1280R^5 - 708R^3s^2 + 97R^4s^4) \right) \right) / \\
&\quad \left((2r-R) (r^3 + 8r^2R + 16rR^2 - 3rs^2 - 2Rs^2)^2 \right) \\
|X_{11}X_{42}|^2 &: \frac{r^2 (2r^5 + 9r^4R - 4R^3s^2 + Rs^4 + 10r^2R (-8R^2 + s^2) + 4r^3 (-5R^2 + s^2) + 2r (32R^4 - 14R^2s^2 + s^4))}{(2r-R) (r^2 - 2rR + s^2)^2} \\
|X_{11}X_{43}|^2 &: \frac{r^2 (2r^5 + 3r^4R - 16R^3s^2 + 3Rs^4 + r^3 (-56R^2 + 4s^2) + r^2 (-80R^3 + 6Rs^2) + 2r (128R^4 - 28R^2s^2 + s^4))}{(2r-R) (r^2 - 8rR + s^2)^2} \\
|X_{11}X_{44}|^2 &: \frac{r^2 (9r^4R - 36R^3s^2 + 5Rs^4 + 12r^3 (9R^2 - 2s^2) + 6r^2 (72R^3 - 11Rs^2) + 4r (144R^4 - 33R^2s^2 + 2s^4))}{(2r-R) (-3r^2 - 12rR + s^2)^2} \\
|X_{11}X_{45}|^2 &: \frac{r^2 (9r^4R - 36R^3s^2 - 7Rs^4 + 12r^3 (9R^2 - s^2) + 6r^2 (72R^3 + 5Rs^2) + r (576R^4 + 60R^2s^2 - 4s^4))}{(2r-R) (3r^2 + 12rR + s^2)^2} \\
|X_{11}X_{46}|^2 &: \frac{r^2 (r^2R + 4rR^2 - 9R^3 - 2rs^2 + 2Rs^2)}{(r-R)^2 (2r-R)} \\
|X_{11}X_{55}|^2 &: \frac{r^2 (r^3 + 8r^2R + 16rR^2 - rs^2 - Rs^2)}{(2r-R) (r+R)^2} \\
|X_{11}X_{56}|^2 &: \frac{r^2 (r^3 + 2r^2R - 4R^3 - rs^2 + Rs^2)}{(r-R)^2 (2r-R)} \\
|X_{11}X_{57}|^2 &: - \frac{r^2 (r^2R + 16R^3 - 4Rs^2 + 2r (4R^2 + s^2))}{(r-2R)^2 (2r-R)} \\
|X_{11}X_{58}|^2 &: \frac{r^2 (6r^5 + 41r^4R - 4R^3s^2 + Rs^4 + 20r^3 (5R^2 - s^2) + 2r^2 (54R^3 - 19Rs^2) + r (64R^4 - 44R^2s^2 + 6s^4))}{(2r-R) (-3r^2 - 4rR + s^2)^2} \\
|X_{11}X_{63}|^2 &: \frac{-R^3s^2 + r^3 (R^2 - 2s^2) + r^2R (8R^2 + s^2) + r (16R^4 - R^2s^2)}{(2r-R) (r+R)^2} \\
|X_{11}X_{65}|^2 &: - \frac{r^2 (3r^2 + 4rR + 4R^2 - s^2)}{(2r-R)R} \\
|X_{11}X_{69}|^2 &: - \frac{r^7 + 12r^6R + 18r^2Rs^4 + Rs^6 + r^4R (64R^2 + s^2) + r^5 (48R^2 + 5s^2) + r^3 (32R^2s^2 - 5s^4) - r (16R^2s^4 + s^6)}{(2r-R) (r^2 + 4rR - s^2)^2} \\
|X_{11}X_{72}|^2 &: \frac{-3r^4 - 12r^3R + 16rR^3 - R^2s^2 + r^2 (-5R^2 + s^2)}{(2r-R)R} \\
|X_{11}X_{75}|^2 &: - \frac{r^7 + 12r^6R + 22r^2Rs^4 + Rs^6 + r^5 (48R^2 + s^2) + r^4 (64R^3 - 31Rs^2) - r^3 (32R^2s^2 + s^4) - r (16R^2s^4 + s^6)}{(2r-R) (r^2 + 4rR + s^2)^2} \\
|X_{11}X_{76}|^2 &: - \left((r^{11} + 20r^{10}R + Rs^{10} + 24r^2Rs^6 (6R^2 + s^2) - rs^8 (24R^2 + s^2) + r^9 (160R^2 + 3s^2) + \right. \\
&\quad \left. r^8 (640R^3 + 17Rs^2) + 2r^7 (640R^4 + 12R^2s^2 + s^4) + 4r^6 (256R^5 + 36R^3s^2 - Rs^4) + \right. \\
&\quad \left. r^5 (512R^4s^2 - 200R^2s^4 - 2s^6) + r^4 (-96R^3s^4 + 22Rs^6) - r^3 (256R^4s^4 + 88R^2s^6 + 3s^8) \right) / \\
&\quad \left((2r-R) (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2 (8R^2 + s^2))^2 \right) \\
|X_{11}X_{78}|^2 &: \frac{2r^5 + 4r^4R - 13r^3R^2 - R^3s^2 + rR^2 (16R^2 + s^2) + r^2 (-20R^3 + Rs^2)}{(r-R)^2 (2r-R)} \\
|X_{11}X_{79}|^2 &: - \frac{r^2 (8r^2R + 50rR^2 + 81R^3 + 8rs^2 - 20Rs^2)}{(2r-R) (2r+3R)^2} \\
|X_{11}X_{80}|^2 &: r^2 \\
|X_{11}X_{81}|^2 &: \frac{r^2 (-R^3s^2 + r^3 (R^2 - 4s^2) + 4r^2 (2R^3 - 3Rs^2) + r (16R^4 - 21R^2s^2 + 4s^4))}{(2r-R) (r^2 + rR - s^2)^2}
\end{aligned}$$

$$\begin{aligned}
& |X_{11}X_{83}|^2: \\
& \left(3r^{11} + 76r^{10}R - Rs^{10} + r^9(800R^2 - 55s^2) + rs^8(40R^2 - 3s^2) + r^8(4480R^3 - 801Rs^2) + \right. \\
& \quad 2r^7(7040R^4 - 2324R^2s^2 + 99s^4) + 4r^6(5888R^5 - 3412R^3s^2 + 397Rs^4) + \\
& \quad 2r^5(8192R^6 - 10368R^4s^2 + 2428R^2s^4 - 99s^6) - 2r^4(6656R^5s^2 - 3568R^3s^4 + 387Rs^6) + \\
& \quad \left. r^3(4096R^4s^4 - 1176R^2s^6 + 55s^8) + r^2(-592R^3s^6 + 88Rs^8) \right) / \\
& \left((2r - R)(5r^4 + 40r^3R - 40rRs^2 + 5s^4 + r^2(80R^2 - 6s^2))^2 \right) \\
& |X_{11}X_{85}|^2: \\
& \frac{r^7 + 20r^6R + Rs^6 + r^5(160R^2 + s^2) + 5r^4(128R^3 - 3Rs^2) - r^3(-1280R^4 + 168R^2s^2 + s^4) + 2r^2(512R^5 - 184R^3s^2 + 15Rs^4) - r(8R^2s^4 + s^6)}{(2r - R)(r^2 + 8rR + 16R^2 + s^2)^2} \\
& |X_{11}X_{86}|^2: \\
& \frac{r^7 + 12r^6R - 26r^2Rs^4 + Rs^6 + r^4(64R^2 + s^2) + r^5(48R^2 + 5s^2) + r^3(32R^2s^2 - 25s^4) + r(-16R^2s^4 + 3s^6)}{(2r - R)(r^2 + 4rR + 5s^2)^2} \\
& |X_{11}X_{88}|^2: \\
& \frac{r^2(9r^3R - 9R^2s^2 + 2s^4 + 6r^2(12R^2 + s^2) + 3r(48R^3 - 13Rs^2))}{(3r^2 - 15rR + s^2)^2} \\
& |X_{11}X_{89}|^2: \\
& \frac{r^2(18r^4R + 9R^3s^2 - 2Rs^4 + 3r^3(45R^2 + 32s^2) + 24r^2(9R^3 + 2Rs^2) + r(-144R^4 + 177R^2s^2 - 32s^4))}{(2r - R)(-6r^2 + 3rR + 2s^2)^2} \\
& |X_{11}X_{99}|^2: \\
& \frac{r^7 + 12r^6R + 14r^2Rs^4 + Rs^6 + r^5(48R^2 + 17s^2) + r^4(64R^3 + 73Rs^2) + r^3(128R^2s^2 - 17s^4) - r(16R^2s^4 + s^6)}{(2r - R)(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))} \\
& |X_{11}X_{141}|^2: \\
& \frac{R(r^6 + 12r^5R + 20rRs^4 - s^6 + r^4(48R^2 + s^2) + 8r^3(8R^3 - 5Rs^2) - r^2(68R^2s^2 + s^4))}{4(2r - R)(r^2 + 4rR - s^2)^2} \\
& |X_{11}X_{142}|^2: \\
& \frac{R(r^4 + 12r^3R - 4R^2s^2 + r^2(48R^2 + 5s^2) + 8r(8R^3 - Rs^2))}{4(2r - R)(r + 4R)^2} \\
& |X_{11}X_{145}|^2: \\
& \frac{21r^3 - 56r^2R + 16rR^2 + 3rs^2 - Rs^2}{2r - R} \\
& |X_{11}X_{190}|^2: \\
& \frac{-5r^7 - 44r^6R - Rs^6 - r^5(48R^2 + 41s^2) + r^4(448R^3 + 111Rs^2) + r^3(1024R^4 + 48R^2s^2 - 3s^4) - 2r^2(160R^3s^2 + 11Rs^4) + r(32R^2s^4 + s^6)}{(2r - R)(-3r^2 - 12rR + s^2)^2} \\
& |X_{11}X_{192}|^2: \\
& \frac{-3r^7 - 32r^6R + 159r^4Rs^2 - Rs^6 - 3r^5(32R^2 + s^2) + r^3(256R^4 + 216R^2s^2 + 3s^4) - 6r^2(24R^3s^2 + 11Rs^4) + 3r(8R^2s^4 + s^6)}{(2r - R)(r^2 + 4rR + s^2)^2} \\
& |X_{11}X_{194}|^2: \\
& \left(-3r^{11} - 56r^{10}R - Rs^{10} + rs^8(16R^2 + 3s^2) - r^9(400R^2 + 9s^2) - r^8(1280R^3 + 33Rs^2) - \right. \\
& \quad 2r^7(640R^4 - 16R^2s^2 + 3s^4) + 4r^6(512R^5 - 120R^3s^2 + 11Rs^4) + \\
& \quad 2r^5(2048R^6 - 1152R^4s^2 + 512R^2s^4 + 3s^6) + r^4(-256R^5s^2 + 576R^3s^4 - 38Rs^6) + \\
& \quad \left. r^3(-512R^4s^4 + 96R^2s^6 + 9s^8) + 4r^2(8R^3s^6 - 15Rs^8) \right) / \\
& \left((2r - R)(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
& |X_{11}X_{200}|^2: \\
& \frac{2r^5 + 9r^4R - 20r^3R^2 - 4R^3s^2 + 4rR^2(16R^2 + s^2) + r^2(-80R^3 + 2Rs^2)}{(r - 2R)^2(2r - R)} \\
& |X_{11}X_{210}|^2: \\
& \frac{3r^4 + 20r^3R + 16r^2R^2 - 64rR^3 - r^2s^2 + 4R^2s^2}{18rR - 9R^2} \\
& |X_{11}X_{213}|^2: \\
& \left(r^2(r^8R - 4R^3s^6 + Rs^8 + 4r^7(5R^2 - s^2) + 40r^6(4R^3 - Rs^2) + 4r^5(160R^4 - 29R^2s^2 - s^4) + \right. \\
& \quad 2r^4(640R^5 - 2R^3s^2 - 25Rs^4) + 4r^3(256R^6 + 104R^4s^2 - 33R^2s^4 + s^6) + \\
& \quad \left. 8r^2(56R^5s^2 - 15R^3s^4 - Rs^6) + 4r(8R^4s^4 - 7R^2s^6 + s^8) \right) / \\
& \left((2r - R)(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2 \right) \\
& |X_{11}X_{238}|^2: \\
& \frac{r^2(6r^5 + 67r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(66R^2 - 5s^2) + r^2(432R^3 - 74Rs^2) + r(256R^4 - 88R^2s^2 + 6s^4))}{(2r - R)(-3r^2 - 12rR + s^2)^2} \\
& |X_{11}X_{239}|^2: \\
& \frac{r^7 + 16r^6R - Rs^6 + r^5(96R^2 - 11s^2) + r^4(256R^3 - 81Rs^2) + r^3(256R^4 - 120R^2s^2 + 23s^4) + 2r^2(56R^3s^2 - 25Rs^4) + r(8R^2s^4 + 3s^6)}{(2r - R)(-3r^2 - 12rR + s^2)^2}
\end{aligned}$$

$$|X_{11}X_{244}|^2: -\frac{r^2(r^4+12r^3R-4R^2s^2+s^4+2r^2(24R^2+s^2))+4r(16R^3-5Rs^2)}{(r^2-14rR+s^2)^2}$$

$$|X_{11}X_{304}|^2: \begin{aligned} &(-r^{11}-20r^{10}R-Rs^{10}+r^9(-160R^2+s^2)+rs^8(24R^2+s^2)+r^8(-640R^3+47Rs^2)+ \\ &2r^7(-640R^4+180R^2s^2+s^4)-8r^6(128R^5-110R^3s^2+11Rs^4)+ \\ &r^5(512R^4s^2-248R^2s^4-2s^6)+r^4(32R^3s^4+82Rs^6)+r^3(256R^4s^4+24R^2s^6-s^8)- \\ &4r^2(36R^3s^6+5Rs^8)) / ((2r-R)(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2) \end{aligned}$$

$$|X_{11}X_{306}|^2: \frac{r^7+12r^6R-Rs^6+r^5(52R^2+3s^2)+r^4(96R^3+11Rs^2)+r^3(64R^4-24R^2s^2+3s^4)-2r^2(34R^3s^2+9Rs^4)+r(20R^2s^4+s^6)}{(2r-R)(-3r^2-6rR+s^2)^2}$$

$$|X_{11}X_{312}|^2: -\frac{r^7+12r^6R+Rs^6+r^5(32R^2+s^2)-r^4(64R^3+31Rs^2)-r^3(256R^4+56R^2s^2+s^4)+2r^2(72R^3s^2+11Rs^4)-r(24R^2s^4+s^6)}{(2r-R)(r^2-8rR+s^2)^2}$$

$$|X_{11}X_{319}|^2: -\frac{r^7+12r^6R+174r^2Rs^4+9Rs^6+r^5(48R^2+9s^2)+r^4(64R^3+33Rs^2)+r^3(96R^2s^2-33s^4)-9r(16R^2s^4+s^6)}{(2r-R)(r^2+4rR-3s^2)^2}$$

$$|X_{11}X_{320}|^2: \frac{-9r^7-108r^6R-14r^2Rs^4-Rs^6-3r^5(144R^2+11s^2)+r^4(-576R^3+87Rs^2)+r^3(-96R^2s^2+9s^4)+r(16R^2s^4+s^6)}{(2r-R)(-3r^2-12rR+s^2)^2}$$

$$|X_{11}X_{321}|^2: -\frac{r^7+12r^6R+Rs^6+r^5(44R^2+s^2)+r^4(32R^3-31Rs^2)-r^3(64R^4+48R^2s^2+s^4)+r^2(68R^3s^2+22Rs^4)-r(20R^2s^4+s^6)}{(2r-R)(r^2-2rR+s^2)^2}$$

$$|X_{11}X_{345}|^2: \frac{3r^7+36r^6R-Rs^6+5r^5(32R^2-s^2)-18r^2Rs^2(8R^2+s^2)+r^4(320R^3+31Rs^2)+r^3(256R^4-24R^2s^2+s^4)+r(24R^2s^4+s^6)}{(2r-R)(-5r^2-8rR+s^2)^2}$$

$$|X_{11}X_{346}|^2: \frac{4r^6R-Rs^6+r^5(48R^2-2s^2)+32r^4R(6R^2+s^2)+r^3(256R^4+16R^2s^2+s^4)-4r^2(36R^3s^2+5Rs^4)+r(24R^2s^4+s^6)}{(2r-R)(-2r^2-8rR+s^2)^2}$$

$$|X_{11}X_{350}|^2: \begin{aligned} &-(r^{11}+20r^{10}R+Rs^{10}+16r^2Rs^6(9R^2+s^2)-rs^8(24R^2+s^2)-2r^4Rs^4(272R^2+s^2)+ \\ &r^9(160R^2+3s^2)+r^8(640R^3+9Rs^2)+2r^7(640R^4-36R^2s^2+s^4)+ \\ &4r^6(256R^5-60R^3s^2-7Rs^4)-2r^5(132R^2s^4+s^6)+r^3(-256R^4s^4+72R^2s^6-3s^8)) / \\ &((2r-R)(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2) \end{aligned}$$

$$|X_{12}X_{20}|^2: \frac{18r^4+81r^3R+16R^4-3R^2s^2+2r^2(68R^2-9s^2)+5r(16R^3-3Rs^2)}{(2r+R)^2}$$

$$|X_{12}X_{21}|^2: \frac{(2r-R)(4r^5+20r^4R-R^3s^2+r^3(41R^2-4s^2)+8r^2(5R^3-Rs^2)+r(16R^4-5Rs^2))}{(4r^2+8rR+3R^2)^2}$$

$$|X_{12}X_{31}|^2: \frac{r^2(12r^6+84r^5R+4R^4s^2+3R^2s^4+r^4(179R^2-40s^2)+4r^3(25R^3-26Rs^2)-2r^2(16R^4+37R^2s^2-6s^4)+r(-64R^5-44R^3s^2+4Rs^4))}{(2r+R)^2(-3r^2-6rR+s^2)^2}$$

$$|X_{12}X_{32}|^2: \begin{aligned} &-(r^2(2r^9R-4R^4s^6-3R^2s^8+r^8(37R^2+16s^2)+4r^7(69R^3+44Rs^2)+ \\ &4r^6(264R^4+167R^2s^2-28s^4)+4r^5(544R^5+241R^3s^2-155Rs^4)+2r^4 \\ &(1152R^6+94R^4s^2-541R^2s^4+56s^6)+4r^3(256R^7-184R^5s^2-181R^3s^4+56Rs^6)- \\ &4r^2(144R^6s^2+42R^4s^4-35R^2s^6+4s^8)+r(96R^5s^4+60R^3s^6-6Rs^8))) / \\ &((2r+R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-3s^2))^2) \end{aligned}$$

$$|X_{12}X_{35}|^2: \frac{r^2(2r^2+8rR+9R^2-2s^2)}{(2r+R)^2}$$

$$|X_{12}X_{36}|^2: \frac{r^2(4r^3+10r^2R+18rR^2-R^3-4Rs^2-2Rs^2)}{(2r-R)(2r+R)^2}$$

$$|X_{12}X_{37}|^2: -\frac{r^2R(2r^5+21r^4R-4R^3s^2+Rs^4+4r^3(19R^2-5s^2)+2r^2(56R^3-29Rs^2)+2r(32R^4-30R^2s^2+5s^4))}{(2r+R)^2(r^2+4rR+s^2)^2}$$

$$|X_{12}X_{38}|^2: \frac{r^2 (4 r^6 + 60 r^5 R - 4 R^4 s^2 + R^2 s^4 + r^4 (337 R^2 + 8 s^2) + r^3 (780 R^3 - 56 R s^2) + 2 r^2 (208 R^4 - 95 R^2 s^2 + 2 s^4) + 4 r (16 R^5 - 17 R^3 s^2 + 3 R s^4))}{(2 r + R)^2 (r^2 - 2 r R + s^2)^2}$$

$$|X_{12}X_{39}|^2: \frac{- \left((r^2 R (2 r^9 + 37 r^8 R - 4 R^3 s^6 - 3 R s^8 + 4 r^7 (69 R^2 + 2 s^2) + 4 r^6 (264 R^3 + 19 R s^2) - 4 r^2 R s^2 (144 R^4 + 74 R^2 s^2 + s^4) + 4 r^5 (544 R^4 + 57 R^2 s^2 + 3 s^4) + 2 r^4 (1152 R^5 + 94 R^3 s^2 - 109 R s^4) + 4 r^3 (256 R^6 - 56 R^4 s^2 - 61 R^2 s^4 + 2 s^6) + 2 r (48 R^4 s^4 + 30 R^2 s^6 + s^8)) \right)}{\left((2 r + R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right)}$$

$$|X_{12}X_{40}|^2: \frac{2 r^3 R + 4 R^4 + r^2 (13 R^2 - 4 s^2) + 2 r (6 R^3 - R s^2)}{(2 r + R)^2}$$

$$|X_{12}X_{41}|^2: \frac{- \left((r^2 (2 r^7 R + r^6 (37 R^2 + 12 s^2) + 2 r^5 (138 R^3 + 65 R s^2) + 2 r^4 (528 R^4 + 247 R^2 s^2 - 20 s^4) + 4 R^2 s^2 (-16 R^4 - 4 R^2 s^2 + s^4) + 2 r^3 (1088 R^5 + 394 R^3 s^2 - 89 R s^4) + r^2 (2304 R^6 + 508 R^4 s^2 - 243 R^2 s^4 + 12 s^6) + 2 r (512 R^7 + 16 R^5 s^2 - 56 R^3 s^4 + 7 R s^6)) \right)}{\left((2 r + R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \right)}$$

$$|X_{12}X_{42}|^2: \frac{r^2 (4 r^6 + 16 r^5 R + 4 R^4 s^2 + 3 R^2 s^4 + r^4 (-13 R^2 + 8 s^2) - 4 r^3 (31 R^3 - 4 R s^2) - 4 r (16 R^5 + 7 R^3 s^2) - 2 r^2 (80 R^4 + 13 R^2 s^2 - 2 s^4))}{(2 r + R)^2 (r^2 - 2 r R + s^2)^2}$$

$$|X_{12}X_{43}|^2: \frac{r^2 (4 r^6 + 4 r^5 R + 16 R^4 s^2 + 5 R^2 s^4 + 8 r^3 R (-23 R^2 + s^2) + r^4 (-43 R^2 + 8 s^2) + r^2 (-304 R^4 - 38 R^2 s^2 + 4 s^4) - 4 r (64 R^5 + 14 R^3 s^2 - R s^4))}{(2 r + R)^2 (r^2 - 8 r R + s^2)^2}$$

$$|X_{12}X_{44}|^2: \frac{- r^2 (18 r^5 R - 36 R^4 s^2 - 7 R^2 s^4 + 3 r^4 (63 R^2 + 16 s^2) + 12 r^3 (57 R^3 + 11 R s^2) + 2 r^2 (504 R^4 + 51 R^2 s^2 - 8 s^4) + 2 r (288 R^5 + 18 R^3 s^2 - 7 R s^4))}{(2 r + R)^2 (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{12}X_{45}|^2: \frac{- r^2 (18 r^5 R - 36 R^4 s^2 + 5 R^2 s^4 + 3 r^4 (63 R^2 + 8 s^2) + 12 r^3 (57 R^3 - 2 R s^2) + 2 r^2 (504 R^4 - 105 R^2 s^2 + 4 s^4) + r (576 R^5 - 252 R^3 s^2 + 22 R s^4))}{(2 r + R)^2 (3 r^2 + 12 r R + s^2)^2}$$

$$|X_{12}X_{46}|^2: \frac{- r^2 (2 r^3 R - R^2 (R^2 + 2 s^2) + r^2 (13 R^2 + 4 s^2) + r (22 R^3 - 2 R s^2))}{(-2 r^2 + r R + R^2)^2}$$

$$|X_{12}X_{55}|^2: \frac{r^2 (2 r^4 + 13 r^3 R + 4 R^4 - R^2 s^2 + r^2 (26 R^2 - 2 s^2) + r (16 R^3 - 3 R s^2))}{(2 r^2 + 3 r R + R^2)^2}$$

$$|X_{12}X_{56}|^2: \frac{r^2 (2 r^4 + r^3 R + R^2 s^2 + r^2 (4 R^2 - 2 s^2) + r (-16 R^3 + R s^2))}{(-2 r^2 + r R + R^2)^2}$$

$$|X_{12}X_{57}|^2: \frac{- r^2 (6 r^3 R - 4 R^2 s^2 + r^2 (31 R^2 + 4 s^2) + r (64 R^3 - 6 R s^2))}{(-2 r^2 + 3 r R + 2 R^2)^2}$$

$$|X_{12}X_{58}|^2: \frac{r^2 (12 r^6 + 52 r^5 R + 4 R^4 s^2 + 3 R^2 s^4 + r^4 (67 R^2 - 40 s^2) - 4 r^3 (13 R^3 + 18 R s^2) - 2 r^2 (70 R^4 + 37 R^2 s^2 - 6 s^4) - 4 r (16 R^5 + 9 R^3 s^2 - R s^4))}{(2 r + R)^2 (-3 r^2 - 4 r R + s^2)^2}$$

$$|X_{12}X_{63}|^2: \frac{-4 r^5 R - 71 r^3 R^3 + R^4 s^2 - 4 r^4 (7 R^2 + s^2) + r^2 (-60 R^4 + 7 R^2 s^2) + r (-16 R^5 + 5 R^3 s^2)}{(2 r^2 + 3 r R + R^2)^2}$$

$$|X_{12}X_{65}|^2: \frac{- r^2 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{R (2 r + R)^2}$$

$$|X_{12}X_{69}|^2: \frac{1}{(2 r + R)^2 (r^2 + 4 r R - s^2)^2} \left(-2 r^8 - 25 r^7 R + R^2 s^6 - 2 r^6 (52 R^2 + 5 s^2) - r^5 (144 R^3 + 35 R s^2) + r^4 (-151 R^2 s^2 + 10 s^4) - r^3 (96 R^3 s^2 + 7 R s^4) + r^2 (-34 R^2 s^4 + 2 s^6) + r (-16 R^3 s^4 + 3 R s^6) \right)$$

$$|X_{12}X_{72}|^2: \frac{- (r + R)^2 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{R (2 r + R)^2}$$

$$\begin{aligned}
|X_{12}X_{75}|^2 &: \frac{1}{(2r+R)^2 (r^2+4rR+s^2)^2} \\
& \left(-2r^8 - 25r^7R + R^2s^6 - 2r^6(52R^2+s^2) + r^5(-144R^3+65Rs^2) + r^4(169R^2s^2+2s^4) + \right. \\
& \quad \left. r^3(96R^3s^2-35Rs^4) + r^2(-46R^2s^4+2s^6) + r(-16R^3s^4+3Rs^6) \right) \\
|X_{12}X_{76}|^2 &: \\
& \left(-2r^{12} - 41r^{11}R + R^2s^{10} + 3rRs^8(-8R^2+s^2) - 6r^{10}(56R^2+s^2) - r^9(1376R^3+33Rs^2) + 2r^2 \right. \\
& \quad \left. s^6(72R^4-30R^2s^2+s^4) + 4r^6s^2(-348R^4+101R^2s^2+s^4) - r^8(2816R^4+15R^2s^2+4s^4) - \right. \\
& \quad \left. 2r^7(1152R^5+84R^3s^2-11Rs^4) - 2r^5(768R^5s^2-476R^3s^4+9Rs^6) + \right. \\
& \quad \left. r^4(288R^4s^4+22R^2s^6+6s^8) + r^3(-256R^5s^4+232R^3s^6-29Rs^8) \right) / \\
& \quad \left((2r+R)^2 (r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2 \right) \\
|X_{12}X_{78}|^2 &: \frac{4r^6+6r^5R-12r^4R^2+R^4s^2+r^3(-41R^3+2Rs^2)+r^2(-40R^4+3R^2s^2)+r(-16R^5+3R^3s^2)}{(-2r^2+rR+R^2)^2} \\
|X_{12}X_{79}|^2 &: -\frac{r^2(16rR^3-9R^4-4R^2s^2+4r^2(R^2+4s^2))}{(4r^2+8rR+3R^2)^2} \\
|X_{12}X_{80}|^2 &: \frac{r^2(2r+3R)^2}{(2r+R)^2} \\
|X_{12}X_{81}|^2 &: -\frac{r^2(4r^5R-R^2s^2(R^2+2s^2))+4r^4(7R^2+2s^2)+r^3(71R^3+20Rs^2)+r(16R^5+19R^3s^2)+r^2(60R^4+42R^2s^2-8s^4)}{(2r+R)^2 (r^2+rR-s^2)^2} \\
|X_{12}X_{83}|^2 &: \\
& \left(6r^{12} + 91r^{11}R + R^2s^{10} + 2r^{10}(232R^2-55s^2) - rRs^8(40R^2+s^2) + r^9(480R^3-1333Rs^2) + \right. \\
& \quad \left. r^8(-3840R^4-5727R^2s^2+396s^4) - 2r^7(7808R^5+4940R^3s^2-1535Rs^4) - \right. \\
& \quad \left. 4r^6(6144R^6+940R^4s^2-1793R^2s^4+99s^6) - \right. \\
& \quad \left. 2r^5(8192R^7-4224R^5s^2-2628R^3s^4+765Rs^6) + \right. \\
& \quad \left. 2r^4(6656R^6s^2+464R^4s^4-589R^2s^6+55s^8) + \right. \\
& \quad \left. r^3(-4096R^5s^4-552R^3s^6+119Rs^8) + r^2(592R^4s^6+52R^2s^8-6s^{10}) \right) / \\
& \quad \left((2r+R)^2 (5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2 \right) \\
|X_{12}X_{85}|^2 &: \frac{1}{(2r+R)^2 (r^2+8rR+16R^2+s^2)^2} \\
& \left(-2r^8 - 41r^7R + R^2s^6 - 2r^6(168R^2+s^2) + r^5(-1376R^3+33Rs^2) + \right. \\
& \quad \left. r^4(-2816R^4+393R^2s^2+2s^4) + r^3(-2304R^5+1048R^3s^2-51Rs^4) + \right. \\
& \quad \left. 2r^2(264R^4s^2-51R^2s^4+s^6) + r(-40R^3s^4+3Rs^6) \right) \\
|X_{12}X_{86}|^2 &: \frac{1}{(2r+R)^2 (r^2+4rR+5s^2)^2} \\
& \left(-2r^8 - 25r^7R + R^2s^6 - rRs^4(16R^2+s^2) - 2r^6(52R^2+5s^2) - r^5(144R^3+35Rs^2) + \right. \\
& \quad \left. r^4(-103R^2s^2+50s^4) + r^3(96R^3s^2-11Rs^4) + r^2(50R^2s^4-6s^6) \right) \\
|X_{12}X_{88}|^2 &: -\frac{r^2(2r-R)(36r^4R+9R^3s^2+4R^4s^4+3r^3(51R^2+4s^2))+12r^2(27R^3-5Rs^2)+r(-144R^4-81R^2s^2+4s^4)}{(2r+R)^2 (3r^2-15rR+s^2)^2} \\
|X_{12}X_{89}|^2 &: \\
& -\frac{r^2(180r^5R-9R^4s^2-10R^2s^4+24r^4(45R^2+8s^2))+3r^3(813R^3+32Rs^2)+2r^2(558R^4+177R^2s^2-32s^4)+r(144R^5+63R^3s^2-20Rs^4)}{(-12r^3+3rR^2+4rs^2+2Rs^2)^2} \\
|X_{12}X_{99}|^2 &: \\
& \left(-2r^8 - 25r^7R + R^2s^6 - 3r^3Rs^2(32R^2+s^2) - 2r^6(52R^2+17s^2) - r^5(144R^3+95Rs^2) + \right. \\
& \quad \left. r^4(-223R^2s^2+34s^4) + r^2(-38R^2s^4+2s^6) + r(-16R^3s^4+3Rs^6) \right) / \\
& \quad \left((2r+R)^2 (r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2)) \right)
\end{aligned}$$

$$\begin{aligned}
|X_{12}X_{141}|^2 &: \frac{R(-2r^7-9r^6R+Rs^6+r^5(20R^2-2s^2)+r^4(80R^3-49Rs^2)+r^3(-64R^4+2s^4)+r^2(68R^3s^2-23Rs^4)+r(-20R^2s^4+2s^6))}{4(2r+R)^2(r^2+4rR-s^2)^2} \\
|X_{12}X_{142}|^2 &: \frac{R(-2r^5-9r^4R-64rR^4+4R^3s^2+r^3(20R^2+6s^2)+r^2(80R^3-13Rs^2))}{4(2r^2+9rR+4R^2)^2} \\
|X_{12}X_{145}|^2 &: \frac{42r^4-75r^3R+R^2s^2+r^2(-76R^2+6s^2)+r(-16R^3+5Rs^2)}{(2r+R)^2} \\
|X_{12}X_{190}|^2 &: \frac{1}{(2r+R)^2(-3r^2-12rR+s^2)^2} \\
& \quad (-10r^8-157r^7R+R^2s^6-2r^6(452R^2+41s^2)+r^5(-2320R^3+153Rs^2)+ \\
& \quad r^4(-2560R^4+809R^2s^2-6s^4)+r^3(-1024R^5+912R^3s^2-71Rs^4)+ \\
& \quad 2r^2(160R^4s^2-47R^2s^4+s^6)+r(-32R^3s^4+3Rs^6)) \\
|X_{12}X_{192}|^2 &: \frac{1}{(2r+R)^2(r^2+4rR+s^2)^2} \\
& \quad (-6r^8-83r^7R+R^2s^6-6r^6(70R^2+s^2)+r^5(-928R^3+287Rs^2)+ \\
& \quad r^4(-832R^4+809R^2s^2+6s^4)+r^3(-256R^5+648R^3s^2-137Rs^4)+ \\
& \quad 6r^2(24R^4s^2-19R^2s^4+s^6)+r(-24R^3s^4+5Rs^6)) \\
|X_{12}X_{194}|^2 &: \frac{(-6r^{12}-131r^{11}R+R^2s^{10}-2r^{10}(590R^2+9s^2)-27r^9(208R^3+5Rs^2)- \\
& \quad r^8(14976R^4+367R^2s^2+12s^4)-2r^7(10880R^5+592R^3s^2-Rs^4)- \\
& \quad 4r^6(3840R^6+840R^4s^2-551R^2s^4-3s^6)-2r^5(2048R^7+896R^5s^2-1728R^3s^4+55Rs^6)+ \\
& \quad 2r^4(128R^6s^2+1312R^4s^4+139R^2s^6+9s^8)+r^3(512R^5s^4+32R^3s^6-111Rs^8)+ \\
& \quad r^2(-32R^4s^6-88R^2s^8+6s^{10})+r(-16R^3s^8+5Rs^{10}))}{((2r+R)^2(r^4+8r^3R-8rR^2+s^4+2r^2(8R^2+s^2))^2)} \\
|X_{12}X_{200}|^2 &: \frac{4r^6+16r^5R-13r^4R^2+4R^4s^2+4r^3R(-31R^2+s^2)+10r^2R^2(-16R^2+s^2)+r(-64R^5+12R^3s^2)}{(-2r^2+3rR+2R^2)^2} \\
|X_{12}X_{210}|^2 &: -\frac{(r+2R)^2(6r^3+19r^2R+16rR^2-2Rs^2-Rs^2)}{9R(2r+R)^2} \\
|X_{12}X_{213}|^2 &: -\left((r^2(2r^9R-4R^4s^6-3R^2s^8+r^8(37R^2+8s^2))+12r^7(23R^3+7Rs^2)+8r^6(132R^4+40R^2s^2+ \\
& \quad s^4)+4r^5(544R^5+153R^3s^2+24Rs^4)+r^4(2304R^6+828R^4s^2+238R^2s^4-8s^6)+ \\
& \quad 4r^3(256R^7+200R^5s^2+75R^3s^4+3Rs^6)+8r^2(56R^6s^2+25R^4s^4+2R^2s^6-s^8)+ \\
& \quad r(32R^5s^4+28R^3s^6-2Rs^8))\right)/\left((2r+R)^2(r^4+8r^3R+16r^2R^2+4rR^2-s^4)^2\right) \\
|X_{12}X_{238}|^2 &: \frac{r^2(12r^6+104r^5R+16R^4s^2+5R^2s^4+r^4(261R^2-40s^2)+8r^3(19R^3-18Rs^2)-6r^2(8R^4+17R^2s^2-2s^4)-8r(32R^5+9R^3s^2-Rs^4))}{(2r+R)^2(-3r^2-12rR+s^2)^2} \\
|X_{12}X_{239}|^2 &: \frac{1}{(2r+R)^2(-3r^2-12rR+s^2)^2} \\
& \quad (2r^8+17r^7R+R^2s^6+22r^6(2R^2-s^2)+r^5(32R^3-105Rs^2)+r^4(-64R^4-151R^2s^2+46s^4)- \\
& \quad r^3(256R^5+360R^3s^2+53Rs^4)-2r^2(56R^4s^2+25R^2s^4-3s^6)+r(-8R^3s^4+5Rs^6)) \\
|X_{12}X_{244}|^2 &: -\frac{r^2(2r-R)(2r^5+27r^4R+4R^3s^2+3Rs^4+r^3(33R^2+s^2)+r^2(352R^3-34Rs^2)+r(-64R^4-68R^2s^2+2s^4))}{(2r+R)^2(r^2-14rR+s^2)^2}
\end{aligned}$$

$$|X_{12}X_{304}|^2:$$

$$\begin{aligned} & (-2 r^{12} - 41 r^{11} R + R^2 s^{10} + 3 r R s^8 (-8 R^2 + s^2) + r^{10} (-336 R^2 + 2 s^2) + r^9 (-1376 R^3 + 99 R s^2) + \\ & 2 r^2 s^6 (72 R^4 - 32 R^2 s^2 + s^4) + r^8 (-2816 R^4 + 801 R^2 s^2 + 4 s^4) - \\ & 2 r^7 (1152 R^5 - 1132 R^3 s^2 + 87 R s^4) + 4 r^6 (612 R^4 s^2 - 188 R^2 s^4 - s^6) + \\ & 2 r^5 (768 R^5 s^2 - 740 R^3 s^4 + 77 R s^6) - 2 r^4 (464 R^4 s^4 - 175 R^2 s^6 + s^8) + \\ & r^3 (-256 R^5 s^4 + 360 R^3 s^6 - 41 R s^8)) / ((2 r + R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2) \end{aligned}$$

$$|X_{12}X_{306}|^2:$$

$$\frac{1}{(2 r + R)^2 (-3 r^2 - 6 r R + s^2)^2}$$

$$\begin{aligned} & (2 r^8 + 9 r^7 R + R^2 s^6 + 2 r^6 (8 R^2 + 3 s^2) + r^5 (4 R^3 + 13 R s^2) + r^4 (-48 R^4 + 45 R^2 s^2 + 6 s^4) + \\ & r^3 (-64 R^5 + 120 R^3 s^2 - 25 R s^4) + 2 r^2 (34 R^4 s^2 - 25 R^2 s^4 + s^6) + r (-20 R^3 s^4 + 3 R s^6)) \end{aligned}$$

$$|X_{12}X_{312}|^2:$$

$$\frac{1}{(2 r + R)^2 (r^2 - 8 r R + s^2)^2}$$

$$\begin{aligned} & (-2 r^8 - 25 r^7 R + R^2 s^6 + 3 r R s^4 (-8 R^2 + s^2) - 2 r^6 (36 R^2 + s^2) + r^5 (-224 R^3 + 65 R s^2) + r^4 \\ & (-320 R^4 + 185 R^2 s^2 + 2 s^4) + r^3 (-256 R^5 + 296 R^3 s^2 - 35 R s^4) + 2 r^2 (72 R^4 s^2 - 31 R^2 s^4 + s^6)) \end{aligned}$$

$$|X_{12}X_{319}|^2:$$

$$\frac{1}{(2 r + R)^2 (r^2 + 4 r R - 3 s^2)^2}$$

$$\begin{aligned} & (-2 r^8 - 25 r^7 R + 9 R^2 s^6 + 18 r^2 s^4 (-19 R^2 + s^2) - 2 r^6 (52 R^2 + 9 s^2) - 9 r^5 (16 R^3 + 15 R s^2) + \\ & r^4 (-471 R^2 s^2 + 66 s^4) - 3 r^3 (96 R^3 s^2 + 49 R s^4) - 9 r (16 R^3 s^4 - 3 R s^6)) \end{aligned}$$

$$|X_{12}X_{320}|^2:$$

$$\frac{1}{(2 r + R)^2 (-3 r^2 - 12 r R + s^2)^2}$$

$$\begin{aligned} & (-18 r^8 - 225 r^7 R + R^2 s^6 - 6 r^6 (156 R^2 + 11 s^2) - 3 r^5 (432 R^3 + 5 R s^2) + r^4 (-399 R^2 s^2 + 18 s^4) - \\ & 3 r^3 (96 R^3 s^2 - 7 R s^4) + r^2 (-22 R^2 s^4 + 2 s^6) + r (-16 R^3 s^4 + 3 R s^6)) \end{aligned}$$

$$|X_{12}X_{321}|^2:$$

$$\frac{1}{(2 r + R)^2 (r^2 - 2 r R + s^2)^2}$$

$$\begin{aligned} & (-2 r^8 - 25 r^7 R + R^2 s^6 - 2 r^6 (48 R^2 + s^2) + r^5 (-188 R^3 + 65 R s^2) + r^4 (-176 R^4 + 185 R^2 s^2 + 2 s^4) + \\ & r^3 (-64 R^5 + 192 R^3 s^2 - 35 R s^4) + 2 r^2 (34 R^4 s^2 - 27 R^2 s^4 + s^6) + r (-20 R^3 s^4 + 3 R s^6)) \end{aligned}$$

$$|X_{12}X_{345}|^2:$$

$$\frac{1}{(2 r + R)^2 (-5 r^2 - 8 r R + s^2)^2}$$

$$\begin{aligned} & (6 r^8 + 11 r^7 R + R^2 s^6 + 3 r R s^4 (-8 R^2 + s^2) - 2 r^6 (44 R^2 + 5 s^2) + r^5 (-416 R^3 + 61 R s^2) + r^4 \\ & (-576 R^4 + 297 R^2 s^2 + 2 s^4) + r^3 (-256 R^5 + 376 R^3 s^2 - 43 R s^4) + 2 r^2 (72 R^4 s^2 - 33 R^2 s^4 + s^6)) \end{aligned}$$

$$|X_{12}X_{346}|^2:$$

$$\frac{1}{(2 r + R)^2 (-2 r^2 - 8 r R + s^2)^2}$$

$$\begin{aligned} & (-8 r^7 R + R^2 s^6 + 3 r R s^4 (-8 R^2 + s^2) - 4 r^6 (21 R^2 + s^2) + r^5 (-304 R^3 + 62 R s^2) + r^4 \\ & (-448 R^4 + 240 R^2 s^2 + 2 s^4) + r^3 (-256 R^5 + 336 R^3 s^2 - 39 R s^4) + 2 r^2 (72 R^4 s^2 - 32 R^2 s^4 + s^6)) \end{aligned}$$

$$|X_{12}X_{350}|^2:$$

$$\begin{aligned} & (-2 r^{12} - 41 r^{11} R + R^2 s^{10} + 3 r R s^8 (-8 R^2 + s^2) - 6 r^{10} (56 R^2 + s^2) - r^9 (1376 R^3 + 17 R s^2) + \\ & r^8 (-2816 R^4 + 249 R^2 s^2 - 4 s^4) + 2 r^2 s^6 (72 R^4 - 26 R^2 s^2 + s^4) + \\ & r^7 (-2304 R^5 + 1176 R^3 s^2 + 70 R s^4) + 4 r^6 (196 R^4 s^2 + 171 R^2 s^4 + s^6) - \\ & 6 r^5 (256 R^5 s^2 - 180 R^3 s^4 - 5 R s^6) + 2 r^4 (560 R^4 s^4 - 105 R^2 s^6 + 3 s^8) + \\ & r^3 (-256 R^5 s^4 + 40 R^3 s^6 - 13 R s^8)) / \\ & ((2 r + R)^2 (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \end{aligned}$$

$$|X_{20}X_{21}|^2:$$

$$\frac{4 (r + 2 R)^2 (2 r^2 + 8 r R + 9 R^2 - 2 s^2)}{(2 r + 3 R)^2}$$

$$|X_{20}X_{31}|^2:$$

$$\frac{21 r^6 + 168 r^5 R + 16 R^2 s^4 - 3 s^6 + 5 r^4 (112 R^2 - 5 s^2) + 56 r^3 (16 R^3 - 3 R s^2) + 3 r^2 (192 R^4 - 112 R^2 s^2 + 5 s^4) - 48 r (4 R^3 s^2 - R s^4)}{(-3 r^2 - 6 r R + s^2)^2}$$

$$\begin{aligned}
|X_{20}X_{32}|^2 &: \frac{(3r^{10} + 60r^9R + s^8(16R^2 - 3s^2) + 31r^8(16R^2 - s^2) + 16r^7(136R^3 - 27Rs^2) + r^6(5376R^4 - 2380R^2s^2 + 94s^4) + 8r^5(896R^5 - 812R^3s^2 + 101Rs^4) + r^4(4096R^6 - 8640R^4s^2 + 2664R^2s^4 - 94s^6) - 16r^3(256R^5s^2 - 222R^3s^4 + 27Rs^6) + r^2(1536R^4s^4 - 652R^2s^6 + 31s^8) + r(-256R^3s^6 + 60Rs^8))}{(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 3s^2))^2} \\
|X_{20}X_{35}|^2 &: \frac{8r^4 + 38r^3R + 16R^4 - 3R^2s^2 + r^2(73R^2 - 8s^2) + 2r(28R^3 - 5Rs^2)}{(2r + R)^2} \\
|X_{20}X_{36}|^2 &: \frac{4r^3 + 15r^2R + 8rR^2 - 16R^3 - 4rs^2 + 3Rs^2}{2r - R} \\
|X_{20}X_{37}|^2 &: \frac{3r^6 + 36r^5R + 16R^2s^4 - 3s^6 + r^4(160R^2 + 3s^2) + 8r^3(40R^3 + 3Rs^2) + r^2(256R^4 + 68R^2s^2 - 3s^4) + 4r(32R^3s^2 - 5Rs^4)}{(r^2 + 4rR + s^2)^2} \\
|X_{20}X_{38}|^2 &: \frac{5r^6 - 8r^5R + 16R^2s^4 - 3s^6 + 7r^4(-16R^2 + s^2) + 16rRs^2(-4R^2 + s^2) - 8r^3(16R^3 - 5Rs^2) + r^2(64R^4 + 16R^2s^2 - s^4)}{(r^2 - 2rR + s^2)^2} \\
|X_{20}X_{39}|^2 &: \frac{(3r^{10} + 60r^9R + s^8(16R^2 - 3s^2) + r^8(496R^2 + 9s^2) + 16r^7(136R^3 + 3Rs^2) + r^6(5376R^4 - 268R^2s^2 + 6s^4) + 8r^5(896R^5 - 300R^3s^2 - 3Rs^4) + r^4(4096R^6 - 5568R^4s^2 + 360R^2s^4 - 6s^6) + r^3(-4096R^5s^2 + 2016R^3s^4 + 48Rs^6) + r^2(1536R^4s^4 - 460R^2s^6 - 9s^8) + r(-256R^3s^6 + 60Rs^8))}{(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_{20}X_{40}|^2 &: 3r^2 + 4rR + 4R^2 - s^2 \\
|X_{20}X_{41}|^2 &: \frac{(3r^8 + 60r^7R + 64R^4s^4 - 12R^2s^6 + r^6(496R^2 - 15s^2) + 16r^5(136R^3 - 13Rs^2) - 32rRs^2(32R^4 - 13R^2s^2 + s^4) + r^4(5376R^4 - 1132R^2s^2 + 25s^4) + 4r^3(1792R^5 - 744R^3s^2 + 53Rs^4) + r^2(4096R^6 - 3520R^4s^2 + 584R^2s^4 - 21s^6))}{(r^3 + 8r^2R + 16rR^2 - 3rs^2 - 2R^2s^2)^2} \\
|X_{20}X_{42}|^2 &: \frac{r^6 - 8r^5R + 16r^3Rs^2 + 16R^2s^4 - 3s^6 - r^4(16R^2 + s^2) + r^2(64R^4 - 64R^2s^2 - 5s^4) - 8r(8R^3s^2 - 3Rs^4)}{(r^2 - 2rR + s^2)^2} \\
|X_{20}X_{43}|^2 &: \frac{r^6 - 32r^5R + 16R^2s^4 - 3s^6 + r^4(128R^2 - s^2) + 32r^3R(24R^2 + s^2) + r^2(1024R^4 - 432R^2s^2 - 5s^4) - 64r(4R^3s^2 - Rs^4)}{(r^2 - 8rR + s^2)^2} \\
|X_{20}X_{44}|^2 &: \frac{27r^6 + 324r^5R + 16R^2s^4 - 3s^6 + 3r^4(480R^2 - 7s^2) + 24r^3(120R^3 - 11Rs^2) + r^2(2304R^4 - 924R^2s^2 + 13s^4) + r(-384R^3s^2 + 92Rs^4)}{(-3r^2 - 12rR + s^2)^2} \\
|X_{20}X_{45}|^2 &: \frac{27r^6 + 324r^5R + 16R^2s^4 - 3s^6 + 3r^4(480R^2 + s^2) + 24r^3(120R^3 - Rs^2) + r^2(2304R^4 - 156R^2s^2 - 11s^4) + 4r(96R^3s^2 - 19Rs^4)}{(3r^2 + 12rR + s^2)^2} \\
|X_{20}X_{46}|^2 &: \frac{3r^4 + 16R^4 - 3R^2s^2 - r^2(15R^2 + s^2) + r(-8R^3 + 4Rs^2)}{(r - R)^2} \\
|X_{20}X_{55}|^2 &: \frac{2r^4 + 11r^3R + 16R^4 - 3R^2s^2 + r^2(28R^2 - 2s^2) + r(32R^3 - 5Rs^2)}{(r + R)^2} \\
|X_{20}X_{56}|^2 &: \frac{2r^4 + 5r^3R + 16R^4 - 3R^2s^2 - 2r^2(4R^2 + s^2) + r(-16R^3 + 5Rs^2)}{(r - R)^2} \\
|X_{20}X_{57}|^2 &: \frac{3r^4 - 4r^3R + 64R^4 + 8rRs^2 - 12R^2s^2 - r^2(32R^2 + s^2)}{(r - 2R)^2} \\
|X_{20}X_{58}|^2 &: \frac{21r^6 + 148r^5R + 16R^2s^4 - 3s^6 + r^4(404R^2 - 25s^2) + 8r^3(64R^3 - 17Rs^2) + r^2(256R^4 - 236R^2s^2 + 15s^4) - 4r(32R^3s^2 - 9Rs^4)}{(-3r^2 - 4rR + s^2)^2} \\
|X_{20}X_{63}|^2 &: \frac{(r + 2R)^2(3r^2 + 4rR + 4R^2 - s^2)}{(r + R)^2} \\
|X_{20}X_{65}|^2 &: -\frac{3r^3 - 16rR^2 - 16R^3 + rs^2 + 3Rs^2}{R} \\
|X_{20}X_{69}|^2 &: \frac{4(r^6 + 12r^5R + 4R^2s^4 - s^6 + r^4(52R^2 - 7s^2) + 8r^3(12R^3 - 5Rs^2) + r^2(64R^4 - 68R^2s^2 + 7s^4) - 4r(8R^3s^2 - 3Rs^4))}{(r^2 + 4rR - s^2)^2} \\
|X_{20}X_{72}|^2 &: r^2 + 8rR + 16R^2 - 4s^2 + \frac{2rs^2}{R}
\end{aligned}$$

$$\begin{aligned}
|X_{20}X_{75}|^2 &: \frac{4(r^6+12r^5R+4R^2s^4-s^6+16r^3R(6R^2+s^2)+r^4(52R^2+s^2)+r^2(64R^4+44R^2s^2-s^4)+4r(8R^3s^2-Rs^4))}{(r^2+4rR+s^2)^2} \\
|X_{20}X_{76}|^2 &: \frac{(4(r^{10}+20r^9R-s^8(-4R^2+s^2)+16r^7R(44R^2+s^2)+r^8(164R^2+3s^2)+2r^6(832R^4-38R^2s^2+s^4)+8r^5(256R^5-84R^3s^2-Rs^4)+2r^4(512R^6-736R^4s^2+96R^2s^4-s^6)-16r^3(64R^5s^2-34R^3s^4-Rs^6)+r^2(384R^4s^4-140R^2s^6-3s^8)+r(-64R^3s^6+20Rs^8)))}{(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{20}X_{78}|^2 &: \frac{r^4+16R^4-4R^2s^2+8rR(-2R^2+s^2)-3r^2(4R^2+s^2)}{(r-R)^2} \\
|X_{20}X_{79}|^2 &: \frac{24r^4+166r^3R+409r^2R^2+408rR^3+144R^4-40r^2s^2-66rRs^2-27R^2s^2}{(2r+3R)^2} \\
|X_{20}X_{80}|^2 &: \frac{20r^3+55r^2R+40rR^2-16R^3-12rs^2+3Rs^2}{2r-R} \\
|X_{20}X_{81}|^2 &: \frac{3r^6+16r^5R+16R^2s^4-3s^6+r^4(32R^2-5s^2)+16rRs^2(-2R^2+s^2)+32r^3(R^3-Rs^2)+r^2(16R^4-60R^2s^2+5s^4)}{(r^2+rR-s^2)^2} \\
|X_{20}X_{83}|^2 &: \frac{(4(21r^{10}+420r^9R+r^8(3460R^2-41s^2)+s^8(100R^2-21s^2)+16r^7(940R^3-57Rs^2)+r^6(36480R^4-7180R^2s^2+66s^4)+8r^5(5888R^5-3220R^3s^2+147Rs^4)+r^4(25600R^6-42432R^4s^2+7296R^2s^4-66s^6)-16r^3(1600R^5s^2-1026R^3s^4+57Rs^6)+r^2(9600R^4s^4-3532R^2s^6+41s^8)-20r(80R^3s^6-21Rs^8)))}{(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2} \\
|X_{20}X_{85}|^2 &: \frac{4(r^6+20r^5R+1024R^6-64R^4s^2-28R^2s^6-s^8+8r^3R(88R^2+s^2)+r^4(164R^2+s^2)+r^2(1664R^4+12R^2s^2-s^4)+4r(512R^5-8R^3s^2-5Rs^4))}{(r^2+8rR+16R^2+s^2)^2} \\
|X_{20}X_{86}|^2 &: \frac{4(r^6+12r^5R+100R^2s^4-21s^6+r^4(52R^2+5s^2)+8r^3(12R^3+7Rs^2)+r^2(64R^4+172R^2s^2-s^4)+4r(40R^3s^2+11Rs^4))}{(r^2+4rR+5s^2)^2} \\
|X_{20}X_{88}|^2 &: \frac{27r^6-216r^5R+16R^2s^4-3s^6+3r^4(-96R^2+s^2)+96r^3(21R^3+2Rs^2)+r^2(3600R^4-1020R^2s^2-11s^4)-8r(60R^3s^2-13Rs^4)}{(3r^2-15rR+s^2)^2} \\
|X_{20}X_{89}|^2 &: \frac{4(27r^6+54r^5R+16R^2s^4-3s^6-48r^3R(3R^2+s^2)+2rRs^2(24R^2+s^2)-3r^4(24R^2+7s^2)+r^2(36R^4-60R^2s^2+13s^4))}{(-6r^2+3rR+2s^2)^2} \\
|X_{20}X_{99}|^2 &: \frac{4(r^6+12r^5R+4R^2s^4-s^6+r^4(52R^2-7s^2)+8r^3(12R^3-5Rs^2)+r^2(64R^4-68R^2s^2+7s^4)-4r(8R^3s^2-3Rs^4))}{r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2)} \\
|X_{20}X_{141}|^2 &: \frac{15r^6+180r^5R+64R^2s^4-15s^6+r^4(784R^2-57s^2)+8r^3(184R^3-51Rs^2)+r^2(1024R^4-860R^2s^2+57s^4)+r(-512R^3s^2+180Rs^4)}{4(r^2+4rR-s^2)^2} \\
|X_{20}X_{142}|^2 &: \frac{15r^4+180r^3R+4R^2(256R^2-55s^2)+7r^2(112R^2-3s^2)+8r(184R^3-17Rs^2)}{4(r+4R)^2} \\
|X_{20}X_{145}|^2 &: 16R(-2r+R) \\
|X_{20}X_{190}|^2 &: \frac{4(5r^6+60r^5R+4R^2s^4-s^6+r^4(276R^2-7s^2)+8r^3(76R^3-7Rs^2)+r^2(576R^4-244R^2s^2+3s^4)+r(-96R^3s^2+28Rs^4))}{(-3r^2-12rR+s^2)^2} \\
|X_{20}X_{192}|^2 &: \frac{16R(r^4R+Rs^4+4r^3(2R^2+s^2)+2r^2(8R^3+3Rs^2)+r(8R^2s^2-4s^4))}{(r^2+4rR+s^2)^2} \\
|X_{20}X_{194}|^2 &: \frac{16R^2(r^2+4rR-s^2)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}{(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{20}X_{200}|^2 &: \frac{r^4-8r^3R+64R^4+16rRs^2-16R^2s^2-r^2(16R^2+3s^2)}{(r-2R)^2} \\
|X_{20}X_{210}|^2 &: \frac{3r^3+44r^2R+128rR^2+144R^3+5rs^2-35Rs^2}{9R}
\end{aligned}$$

$$\begin{aligned}
|X_{20}X_{213}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2} \\
& \quad (3r^{10}+60r^9R+s^8(16R^2-3s^2)+16r^7R(136R^2+s^2)+r^8(496R^2+s^2)+ \\
& \quad 2r^6(2688R^4+58R^2s^2-s^4)+32r^3Rs^2(64R^4-29R^2s^2+s^4)+ \\
& \quad 16r^5(448R^5+34R^3s^2-3Rs^4)+2r^4(2048R^6+800R^4s^2-188R^2s^4+s^6)- \\
& \quad r^2(256R^4s^4+44R^2s^6+s^8)-4r(32R^3s^6-9Rs^8)) \\
|X_{20}X_{238}|^2 &: \frac{21r^6+272r^5R+16R^2s^4-3s^6+r^4(1312R^2-25s^2)+8r^3(352R^3-35Rs^2)+3r^2(768R^4-288R^2s^2+5s^4)+r(-384R^3s^2+88Rs^4)}{(-3r^2-12rR+s^2)^2} \\
|X_{20}X_{239}|^2 &: \frac{16(2r^6+24r^5R+R^2s^4+r^4(105R^2-s^2))+2r^3(100R^3-7Rs^2)+r^2(144R^4-46R^2s^2+s^4)+r(-24R^3s^2+2Rs^4)}{(-3r^2-12rR+s^2)^2} \\
|X_{20}X_{244}|^2 &: \frac{5r^6-120r^5R+16R^2s^4-3s^6+7r^4(16R^2+s^2)+8r^3R(272R^2+s^2)+r^2(3136R^4-912R^2s^2-s^4)+r(-448R^3s^2+96Rs^4)}{(r^2-14rR+s^2)^2} \\
|X_{20}X_{304}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2} \\
& \quad 4(r^{10}+20r^9R+704r^7R^3+r^8(164R^2-s^2)-s^8(-4R^2+s^2)+2r^6(832R^4+50R^2s^2-s^4)+ \\
& \quad 16r^3Rs^2(64R^4-18R^2s^2+s^4)+8r^5(256R^5+76R^3s^2-7Rs^4)+2r^4 \\
& \quad (512R^6+672R^4s^2-136R^2s^4+s^6)+r^2(128R^4s^4-92R^2s^6+s^8)+r(-64R^3s^6+20Rs^8)) \\
|X_{20}X_{306}|^2 &: \frac{4(8r^6+64r^5R+4R^2s^4-s^6+2r^4(98R^2-9s^2))+16rRs^2(-3R^2+s^2)+16r^3(17R^3-5Rs^2)+r^2(144R^4-112R^2s^2+9s^4)}{(-3r^2-6rR+s^2)^2} \\
|X_{20}X_{312}|^2 &: \frac{4(r^6-12r^5R+4R^2s^4-s^6+r^4(-12R^2+s^2))+16r^3R(8R^2+s^2)+r^2(256R^4-116R^2s^2-s^4)+r(-64R^3s^2+20Rs^4)}{(r^2-8rR+s^2)^2} \\
|X_{20}X_{319}|^2 &: \frac{4(r^6+12r^5R+36R^2s^4-9s^6+r^4(52R^2-15s^2))+96r^3(R^3-Rs^2)+r^2(64R^4-180R^2s^2+39s^4)+r(-96R^3s^2+60Rs^4)}{(r^2+4rR-3s^2)^2} \\
|X_{20}X_{320}|^2 &: \frac{4(9r^6+108r^5R+4R^2s^4-s^6+39r^4(12R^2-s^2))+96r^3(9R^3-2Rs^2)+3r^2(192R^4-92R^2s^2+5s^4)+r(-96R^3s^2+28Rs^4)}{(-3r^2-12rR+s^2)^2} \\
|X_{20}X_{321}|^2 &: \frac{4(r^6+4R^2s^4-s^6+r^4(-12R^2+s^2))+8rRs^2(-2R^2+s^2)-16r^3(R^3-Rs^2)+r^2(16R^4-4R^2s^2-s^4)}{(r^2-2rR+s^2)^2} \\
|X_{20}X_{345}|^2 &: \frac{4(21r^6+148r^5R+4R^2s^4-s^6+r^4(404R^2-31s^2))+128r^3(4R^3-Rs^2)+r^2(256R^4-164R^2s^2+11s^4)+r(-64R^3s^2+20Rs^4)}{(-5r^2-8rR+s^2)^2} \\
|X_{20}X_{346}|^2 &: \frac{4(3r^6+36r^5R+4R^2s^4-s^6+r^4(160R^2-7s^2))+8r^3(40R^3-7Rs^2)+r^2(256R^4-140R^2s^2+5s^4)+r(-64R^3s^2+20Rs^4)}{(-2r^2-8rR+s^2)^2} \\
|X_{20}X_{350}|^2 &: \frac{(4(r^{10}+20r^9R-s^8(-4R^2+s^2)+8r^7R(88R^2+s^2)+ \\
& \quad r^8(164R^2+3s^2)+2r^6(832R^4-94R^2s^2+s^4)+8r^5(256R^5-156R^3s^2-Rs^4)+ \\
& \quad 2r^4(512R^6-1376R^4s^2+144R^2s^4-s^6)-8r^3(256R^5s^2-140R^3s^4-5Rs^6)+ \\
& \quad r^2(1152R^4s^4-380R^2s^6-3s^8)-4r(32R^3s^6-9Rs^8)))}{(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{21}X_{31}|^2 &: -\frac{R(r^2+s^2)^2(6r^3+19r^2R+16rRs^2-2Rs^2)}{(2r+3R)^2(-3r^2-6rR+s^2)^2} \\
|X_{21}X_{32}|^2 &: -\left((R(2r^{11}+37r^{10}R-Rs^{10}+2r^9(138R^2-5s^2)+r^8(1056R^3-85Rs^2)+ \\
& \quad 4r^7(544R^4-44R^2s^2-3s^4)+2r^6(1152R^5+70R^3s^2-63Rs^4)+ \\
& \quad 4r^5(256R^6+152R^4s^2-98R^2s^4+3s^6)+r^4(448R^5s^2-520R^3s^4+22Rs^6)- \\
& \quad 2r^3(112R^4s^4+24R^2s^6-5s^8)+r^2(-52R^3s^6+25Rs^8)+r(20R^2s^8-2s^{10}))) \right. \\
& \quad \left. \left((2r+3R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-3s^2))^2\right)\right)
\end{aligned}$$

$$\begin{aligned}
|X_{21}X_{35}|^2 &: \frac{(2r-R)R^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(4r^2+8rR+3R^2)^2} \\
|X_{21}X_{36}|^2 &: \frac{R^2(2r^3+11r^2R+16rR^2-6rs^2-Rs^2)}{(2r-R)(2r+3R)^2} \\
|X_{21}X_{37}|^2 &: \frac{R(-2r^7-21r^6R+Rs^6+r^5(-76R^2+14s^2)-7r^4(16R^3-9Rs^2)-2r^3(32R^4-60R^2s^2+7s^4)+r^2(68R^3s^2-27Rs^4)+r(-20R^2s^4+2s^6))}{(2r+3R)^2(r^2+4rR+s^2)^2} \\
|X_{21}X_{38}|^2 &: -\frac{R(-3r^2-8rR+s^2)^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(2r+3R)^2(r^2-2rR+s^2)^2} \\
|X_{21}X_{39}|^2 &: \frac{\left((R(2r^{11}+37r^{10}R-Rs^{10}+6r^9(46R^2+s^2)+33r^8(32R^3+3Rs^2)+4r^7(544R^4+148R^2s^2+s^4)+2r^6(1152R^5+774R^3s^2-67Rs^4)+4r^5(256R^6+408R^4s^2-194R^2s^4-s^6)+r^4(448R^5s^2-904R^3s^4+94Rs^6)-2r^3(112R^4s^4+24R^2s^6+3s^8)+r^2(-52R^3s^6+33Rs^8)+r(20R^2s^8-2s^{10}))) \right)}{(2r+3R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{21}X_{40}|^2 &: \frac{R(-10r^3-17r^2R+20rR^2+36R^3-2rs^2-5Rs^2)}{(2r+3R)^2} \\
|X_{21}X_{41}|^2 &: -\frac{R(r^2+4rR+s^2)^2(2r^5+21r^4R-4R^3s^2+r^3(76R^2-6s^2)+7r^2(16R^3-Rs^2)+8r(8R^4-R^2s^2))}{(2r+3R)^2(r^3+8r^2R+16rR^2-3rs^2-2Rs^2)^2} \\
|X_{21}X_{42}|^2 &: \frac{R(2r^7+9r^6R+Rs^6+r^5(-96R^2+6s^2)-r^4(320R^3+61Rs^2)-2r^3(128R^4+84R^2s^2-3s^4)-r^2(112R^3s^2+5Rs^4)+r(-8R^2s^4+2s^6))}{(2r+3R)^2(r^2-2rR+s^2)^2} \\
|X_{21}X_{43}|^2 &: \frac{R(10r^7+149r^6R+Rs^6+r^5(328R^2+22s^2)+r^4(80R^3-117Rs^2)-2r^3(128R^4+96R^2s^2-7s^4)-r^2(112R^3s^2+9Rs^4)+r(-8R^2s^4+2s^6))}{(2r+3R)^2(r^2-8rR+s^2)^2} \\
|X_{21}X_{44}|^2 &: -\frac{R(18r^7+189r^6R-Rs^6+6r^5(114R^2-5s^2)+21r^4(48R^3+5Rs^2)+6r^3(96R^4+44R^2s^2-3s^4)+r^2(156R^3s^2-5Rs^4)+r(4R^2s^4-2s^6))}{(2r+3R)^2(-3r^2-12rR+s^2)^2} \\
|X_{21}X_{45}|^2 &: \frac{1}{(2r+3R)^2(3r^2+12rR+s^2)^2} \\
&R(-18r^7-189r^6R+Rs^6+r^5(-684R^2+78s^2)-21r^4(48R^3-11Rs^2)-6r^3(96R^4-68R^2s^2+5s^4)+r^2(228R^3s^2-43Rs^4)+r(-28R^2s^4+2s^6)) \\
|X_{21}X_{46}|^2 &: -\frac{R(10r^5+33r^4R-R^3s^2+2r^3(15R^2+s^2)+r^2(11R^3+5Rs^2)+2r(8R^4-3R^2s^2))}{(2r^2+rR-3R^2)^2} \\
|X_{21}X_{55}|^2 &: \frac{R^2(4r^4+5r^3R-12r^2R^2-16rR^3+rRs^2+R^2s^2)}{(2r^2+5rR+3R^2)^2} \\
|X_{21}X_{56}|^2 &: -\frac{R^2(r^3R-R^2s^2+4r^2(2R^2+s^2)+r(16R^3-3Rs^2))}{(2r^2+rR-3R^2)^2} \\
|X_{21}X_{57}|^2 &: -\frac{R(10r^5+49r^4R-4R^3s^2+2r^3(46R^2+s^2)+r^2(96R^3+5Rs^2)+16r(4R^4-R^2s^2))}{(-2r^2+rR+6R^2)^2} \\
|X_{21}X_{58}|^2 &: -\frac{R(r^2+2rR+s^2)^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(2r+3R)^2(-3r^2-4rR+s^2)^2} \\
|X_{21}X_{63}|^2 &: -\frac{R(r+2R)^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(2r^2+5rR+3R^2)^2} \\
|X_{21}X_{65}|^2 &: \frac{-8r^5-34r^4R-53r^3R^2+R^3s^2+r^2(-40R^3+2Rs^2)+r(-16R^4+5R^2s^2)}{R(2r+3R)^2} \\
|X_{21}X_{69}|^2 &: -\frac{1}{(2r+3R)^2(r^2+4rR-s^2)^2} \\
&4(r^7R-R^2s^6+2r^2R^2s^2(30R^2+s^2)+4r^6(3R^2+2s^2)+r^5(52R^3+49Rs^2)+r^4(96R^4+115R^2s^2-8s^4)+r^3(64R^5+128R^3s^2-17Rs^4)+r(12R^3s^4-Rs^6))
\end{aligned}$$

$$\begin{aligned}
|X_{21}X_{72}|^2 &: \frac{-4r^5 - 34r^4R + 4R^3s^2 + 4r^3(-26R^2 + s^2) - 5r^2(27R^3 - 2Rs^2) + r(-64R^4 + 10R^2s^2)}{R(2r+3R)^2} \\
|X_{21}X_{75}|^2 &: \frac{4R(r^7 + 12r^6R - Rs^6 + r^5(52R^2 - 23s^2)) + r^4(96R^3 - 109Rs^2) + r^3(64R^4 - 160R^2s^2 + 7s^4) + r^2(-68R^3s^2 + 22Rs^4) + r(20R^2s^4 - s^6)}{(2r+3R)^2(r^2 + 4rR + s^2)^2} \\
|X_{21}X_{76}|^2 &: \frac{\begin{aligned} &- \left((4R(r^{11} + 20r^{10}R - Rs^{10} - r^8(-20R^2 + s^2) + r^9(164R^2 + 3s^2) + r^8(704R^3 + 47Rs^2) + \right. \\ &2r^7(832R^4 + 140R^2s^2 + s^4) + 4r^6(512R^5 + 195R^3s^2 - 51Rs^4) + \\ &2r^5(512R^6 + 496R^4s^2 - 340R^2s^4 - s^6) + r^4(448R^5s^2 - 680R^3s^4 + 42Rs^6) - \\ &r^3(224R^4s^4 + 8R^2s^6 + 3s^8) + r^2(-52R^3s^6 + 16Rs^8) \bigg) \bigg/ \\ &\left((2r+3R)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \end{aligned}}{(2r+3R)^2(r^2 + 4rR + s^2)^2} \\
|X_{21}X_{78}|^2 &: \frac{R(-2r^5 - 21r^4R + 4R^3s^2 + 7r^2R(-16R^2 + s^2) + 8rR^2(-8R^2 + s^2) + r^3(-76R^2 + 6s^2))}{(2r^2 + rR - 3R^2)^2} \\
|X_{21}X_{79}|^2 &: \frac{(2r-R)(2r^3 + 11r^2R + 16rR^2 - 6rRs^2 - Rs^2)}{(2r+3R)^2} \\
|X_{21}X_{80}|^2 &: \frac{(2r+R)^2(6r^3 + 19r^2R + 16rR^2 - 2rRs^2 - Rs^2)}{(2r-R)(2r+3R)^2} \\
|X_{21}X_{81}|^2 &: \frac{R(r^2 + 2rRs^2)^2(6r^3 + 19r^2R + 16rR^2 - 2rRs^2 - Rs^2)}{(2r+3R)^2(r^2 + rR - s^2)^2} \\
|X_{21}X_{83}|^2 &: \frac{\begin{aligned} &(4(4r^{12} + 77r^{11}R + R^2s^{10} + 4r^{10}(151R^2 + 3s^2) + r^9(2460R^3 + 103Rs^2) - 4r^2s^6(-13R^4 + \\ &6R^2s^2 + s^4) + r^8(5440R^4 + 105R^2s^2 + 8s^4) + 2r^7(3008R^5 - 620R^3s^2 + 5Rs^4) + \\ &4r^6(512R^6 - 995R^4s^2 + 73R^2s^4 - 2s^6) - 2r^5(512R^7 + 1776R^5s^2 - 756R^3s^4 - 11Rs^6) - \\ &2r^4(224R^6s^2 - 660R^4s^4 + 129R^2s^6 + 6s^8) + \\ &r^3(224R^5s^4 - 56R^3s^6 + 41Rs^8) + r(-20R^3s^8 + 3Rs^{10})) \bigg) \bigg/ \\ &\left((2r+3R)^2(5r^4 + 40r^3R - 40rRs^2 + 5s^4 + r^2(80R^2 - 6s^2))^2 \right) \end{aligned}}{(2r+3R)^2(r^2 + 4rR + s^2)^2} \\
|X_{21}X_{85}|^2 &: \frac{1}{(2r+3R)^2(r^2 + 8rR + 16R^2 + s^2)^2} 4R(r^7 + 20r^6R + r^5(164R^2 - 7s^2) + r^4(704R^3 - 85Rs^2) - \\ &R(-8R^2s + s^3)^2 + r^3(1664R^4 - 376R^2s^2 + 23s^4) + \\ &r^2(2048R^5 - 724R^3s^2 + 70Rs^4) + r(1024R^6 - 544R^4s^2 + 60R^2s^4 - s^6)) \\
|X_{21}X_{86}|^2 &: \frac{4(r^2 + 2rRs^2)^2(r^3R - R^2s^2 + 4r^2(2R^2 + s^2) + r(16R^3 - 3Rs^2))}{(2r+3R)^2(r^2 + 4rR + 5s^2)^2} \\
|X_{21}X_{88}|^2 &: \frac{R(-126r^7 - 351r^6R + Rs^6 + 6r^5(-6R^2 + s^2) + 3r^4(60R^3 - 31Rs^2) + 6r^3(-96R^4 + 80R^2s^2 + s^4) + r^2(228R^3s^2 - 61Rs^4) + r(-28R^2s^4 + 2s^6))}{(2r+3R)^2(3r^2 - 15rR + s^2)^2} \\
|X_{21}X_{89}|^2 &: \frac{4R(72r^7 + 432r^6R - Rs^6 + 192r^3R^2(3R^2 + s^2) + 42r^5(24R^2 + s^2) + 3r^4(381R^3 + 53Rs^2) + 2r^2(78R^3s^2 - 7Rs^4) + r(4R^2s^4 - 2s^6))}{(2r+3R)^2(-6r^2 + 3rR + 2s^2)^2} \\
|X_{21}X_{99}|^2 &: \frac{4R(r^2 + 2rRs^2)^2(r^3 + 8r^2R + 16rR^2 - rRs^2 - Rs^2)}{(2r+3R)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))} \\
|X_{21}X_{141}|^2 &: \frac{1}{4(2r+3R)^2(r^2 + 4rR - s^2)^2} \\ & \quad (4r^8 + 48r^7R - 12rR^3s^4 + R^2s^6 + r^6(207R^2 - 28s^2) + 12r^5(31R^3 - 16Rs^2) + \\ & \quad r^4(208R^4 - 409R^2s^2 + 28s^4) - 8r^3(8R^5 + 37R^3s^2 - 10Rs^4) + r^2(-60R^4s^2 + 25R^2s^4 - 4s^6)) \\
|X_{21}X_{142}|^2 &: \frac{4r^6 + 48r^5R + 4R^4s^2 + 3r^4(69R^2 - 4s^2) + 4r^3(93R^3 - 16Rs^2) + r^2(208R^4 - 77R^2s^2) - 8r(8R^5 - 3Rs^2)}{4(2r^2 + 11rR + 12R^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{21}X_{145}|^2 &: \frac{4(6r^4 - 10r^3R + 4R^2s^2 + r^2(-71R^2 + 2s^2) + r(-64R^3 + 6Rs^2))}{(2r+3R)^2} \\
|X_{21}X_{190}|^2 &: -\frac{1}{(2r+3R)^2(-3r^2-12rR+s^2)^2} 4(4r^8 + 63r^7R - R^2s^6 + 4r^6(93R^2 + 2s^2) + r^5(1012R^3 - 51Rs^2) + \\
&\quad r^4(1248R^4 - 249R^2s^2 + 4s^4) + r^3(576R^5 - 400R^3s^2 + 13Rs^4) + \\
&\quad r^2(-228R^4s^2 + 34R^2s^4) + r(28R^3s^4 - Rs^6)) \\
|X_{21}X_{192}|^2 &: -\frac{1}{(2r+3R)^2(r^2+4rR+s^2)^2} 4(2r^8 + 30r^7R - 4R^2s^6 + r^6(171R^2 + 2s^2) + r^5(456R^3 - 58Rs^2) + \\
&\quad r^4(560R^4 - 294R^2s^2 - 2s^4) + r^3(256R^5 - 488R^3s^2 + 34Rs^4) + \\
&\quad r^2(-272R^4s^2 + 107R^2s^4 - 2s^6) + r(80R^3s^4 - 6Rs^6)) \\
|X_{21}X_{194}|^2 &: -\left((4(2r^{12} + 46r^{11}R - 4R^2s^{10} + r^{10}(443R^2 + 6s^2) + r^9(2304R^3 + 50Rs^2) + \right. \\
&\quad 4r^8(1736R^4 + 34R^2s^2 + s^4) + 4r^7(3008R^5 + 88R^3s^2 - Rs^4) + 2r^6 \\
&\quad (5504R^6 + 760R^4s^2 - 215R^2s^4 - 2s^6) + 4r^5(1024R^7 + 736R^5s^2 - 444R^3s^4 + 5Rs^6) + \\
&\quad 2r^4(896R^6s^2 - 1152R^4s^4 - 6R^2s^6 - 3s^8) + r^3(-896R^5s^4 - 256R^3s^6 + 22Rs^8) + \\
&\quad \left. r^2(-208R^4s^6 + 107R^2s^8 - 2s^{10}) + r(80R^3s^8 - 6Rs^{10}))\right) / \\
&\quad \left((2r+3R)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2\right) \\
|X_{21}X_{200}|^2 &: \frac{R(2r^5 + 9r^4R + 16R^3s^2 + r^3(-96R^2 + 10s^2) + r^2(-320R^3 + 13Rs^2) - 8r(32R^4 - 3R^2s^2))}{(-2r^2 + rR + 6R^2)^2} \\
|X_{21}X_{210}|^2 &: \frac{-10r^4R + 9R^3s^2 + r^3(-91R^2 + 8s^2) + r^2(-204R^3 + 10Rs^2) - 3r(48R^4 - 5R^2s^2)}{9R(2r+3R)^2} \\
|X_{21}X_{213}|^2 &: -\left((R(2r^{11} + 37r^{10}R - Rs^{10} - 2rs^8(-6R^2 + s^2) + 6r^9(46R^2 + s^2) + r^8(1056R^3 + 91Rs^2) + \right. \\
&\quad 4r^7(544R^4 + 124R^2s^2 + s^4) + 2r^6(1152R^5 + 582R^3s^2 + 41Rs^4) + \\
&\quad 4r^5(256R^6 + 280R^4s^2 + 108R^2s^4 - s^6) + r^4(448R^5s^2 + 600R^3s^4 + 38Rs^6) + \\
&\quad \left. 6r^3(48R^4s^4 + 16R^2s^6 - s^8) + r^2(44R^3s^6 + 9Rs^8))\right) / \\
&\quad \left((2r+3R)^2(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2\right) \\
|X_{21}X_{238}|^2 &: \frac{R(2r^7 + 25r^6R - 21r^2Rs^4 + Rs^6 + 2rs^4(-8R^2 + s^2) + 2r^5(52R^2 + 3s^2) + r^4(144R^3 - 61Rs^2) + r^3(-40R^2s^2 + 6s^4))}{(2r+3R)^2(-3r^2-12rR+s^2)^2} \\
|X_{21}X_{239}|^2 &: \frac{1}{(2r+3R)^2(-3r^2-12rR+s^2)^2} \\
&\quad 4(2r^8 + 24r^7R + 4R^2s^6 + 3r^6(35R^2 + 2s^2) + r^5(200R^3 + 38Rs^2) + 2r^4(72R^4 + 35R^2s^2 + 3s^4) + \\
&\quad 4r^3(14R^3s^2 - 3Rs^4) + r^2(-79R^2s^4 + 2s^6) + r(-64R^3s^4 + 6Rs^6)) \\
|X_{21}X_{244}|^2 &: \frac{1}{(2r+3R)^2(r^2-14rR+s^2)^2} \\
&\quad R(-102r^7 - 531r^6R + Rs^6 + r^5(-1072R^2 + 22s^2) + r^4(-1280R^3 + 107Rs^2) - \\
&\quad 2r^3(512R^4 - 312R^2s^2 + s^4) + 5r^2(64R^3s^2 - 13Rs^4) + r(-32R^2s^4 + 2s^6)) \\
|X_{21}X_{304}|^2 &: -\left((4R(r^{11} + 20r^{10}R - Rs^{10} + r^9(164R^2 - 17s^2) - rs^8(-20R^2 + s^2) + r^8(704R^3 - 217Rs^2) + \right. \\
&\quad 2r^7(832R^4 - 516R^2s^2 + 31s^4) + 4r^6(512R^5 - 557R^3s^2 + 110Rs^4) + \\
&\quad 2r^5(512R^6 - 1040R^4s^2 + 508R^2s^4 - 23s^6) - 2r^4(288R^5s^2 - 468R^3s^4 + 67Rs^6) + \\
&\quad \left. r^3(352R^4s^4 - 168R^2s^6 + s^8) + r^2(-84R^3s^6 + 20Rs^8))\right) / \\
&\quad \left((2r+3R)^2(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2\right)
\end{aligned}$$

$$\begin{aligned}
|X_{21}X_{306}|^2 &: \frac{1}{(2r+3R)^2(-3r^2-6rR+s^2)^2} \\
&4(2r^8+16r^7R-10r^2R^2s^4+R^2s^6+r^6(49R^2-8s^2)+r^5(68R^3-39Rs^2)+ \\
&\quad r^4(36R^4-62R^2s^2+6s^4)+r^3(-32R^3s^2+10Rs^4)+r(-16R^3s^4+Rs^6)) \\
|X_{21}X_{312}|^2 &: -\frac{4R(9r^7+48r^6R-Rs^6+r^5(108R^2-23s^2)+r^4(112R^3-45Rs^2)+r^3(64R^4-88R^2s^2-s^4)+r^2(-68R^3s^2+18Rs^4)+r(20R^2s^4-s^6))}{(2r+3R)^2(r^2-8rR+s^2)^2} \\
|X_{21}X_{319}|^2 &: -\frac{1}{(2r+3R)^2(r^2+4rR-3s^2)^2} \\
&4(r^7R-9R^2s^6+4r^6(3R^2+4s^2)+r^5(52R^3+121Rs^2)+r^4(96R^4+339R^2s^2-48s^4)+ \\
&\quad r^3(64R^5+416R^3s^2-81Rs^4)+2r^2(94R^4s^2+39R^2s^4)+3r(44R^3s^4-3Rs^6)) \\
|X_{21}X_{320}|^2 &: -\frac{1}{(2r+3R)^2(-3r^2-12rR+s^2)^2} \\
&4(9r^7R-R^2s^6+12r^6(9R^2+4s^2)+9r^5(52R^3+25Rs^2)+r^4(864R^4+363R^2s^2-16s^4)+ \\
&\quad r^3(576R^5+288R^3s^2-41Rs^4)+6r^2(26R^4s^2-3R^2s^4)+r(4R^3s^4-Rs^6)) \\
|X_{21}X_{321}|^2 &: -\frac{4R(5r^7+38r^6R-Rs^6+r^5(112R^2-23s^2)+5r^4(28R^3-17Rs^2)+r^3(64R^4-124R^2s^2+3s^4)+r^2(-68R^3s^2+20Rs^4)+r(20R^2s^4-s^6))}{(2r+3R)^2(r^2-2rR+s^2)^2} \\
|X_{21}X_{345}|^2 &: \frac{4(r^2+2rR-s^2)^2(4r^4+5r^3R-12r^2R^2-16rR^3+rRs^2+R^2s^2)}{(2r+3R)^2(-5r^2-8rR+s^2)^2} \\
|X_{21}X_{346}|^2 &: -\frac{1}{(2r+3R)^2(-2r^2-8rR+s^2)^2} \\
&4(2r^7R-R^2s^6+r^5R(76R^2+s^2)+r^6(21R^2+2s^2)+r^4(112R^4-27R^2s^2-2s^4)+ \\
&\quad r^3(64R^5-88R^3s^2-2Rs^4)+r^2(-68R^4s^2+18R^2s^4)+r(20R^3s^4-Rs^6)) \\
|X_{21}X_{350}|^2 &: -\left((4R(r^{11}+20r^{10}R-Rs^{10}+r^9(164R^2-5s^2)-r^8(-12R^2+s^2)+4r^2Rs^6(19R^2+s^2)+\right. \\
&\quad r^8(704R^3-61Rs^2)+2r^7(832R^4-144R^2s^2-11s^4)+ \\
&\quad 4r^6(512R^5-173R^3s^2-60Rs^4)+2r^5(512R^6-464R^4s^2-288R^2s^4-13s^6)- \\
&\quad 2r^4(288R^5s^2+244R^3s^4-51Rs^6)+r^3(-160R^4s^4+144R^2s^6-11s^8))) / \\
&\quad \left((2r+3R)^2(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2\right) \\
|X_{31}X_{32}|^2 &: -\left((4r^4R^2(r^8+20r^7R-4R^2s^6+s^8+4r^6(40R^2+s^2)+4r^5(160R^3+3Rs^2)+4r^2\right. \\
&\quad s^2(-144R^4+38R^2s^2+s^4)+2r^4(640R^4-66R^2s^2+3s^4)+ \\
&\quad 4r^3(256R^5-152R^3s^2+23Rs^4)+4r(24R^3s^4-7Rs^6))) / (3r^6+30r^5R+ \\
&\quad 14rRs^4-s^6+r^4(96R^2-19s^2)+r^3(96R^3-68Rs^2)+r^2(-64R^2s^2+9s^4))^2 \\
|X_{31}X_{35}|^2 &: \frac{4r^2R^2(2r^4+10r^3R+r^2(13R^2-12s^2)+s^2(R^2+2s^2)-2r(8R^3+11Rs^2))}{(2r+R)^2(-3r^2-6rR+s^2)^2} \\
|X_{31}X_{36}|^2 &: \frac{4r^2R^2(4r^3+11r^2R+16rR^2-4rs^2-Rs^2)}{(2r-R)(-3r^2-6rR+s^2)^2} \\
|X_{31}X_{37}|^2 &: -\frac{4r^2R(r^6R-4Rs^6+6r^5(2R^2-s^2)+6r^4(8R^3-7Rs^2)+4r^3(16R^4-33R^2s^2+5s^4)+r^2(-132R^3s^2+65Rs^4)+r(72R^2s^4-6s^6))}{(3r^4+18r^3R+2rRs^2-s^4+2r^2(12R^2+s^2))^2} \\
|X_{31}X_{38}|^2 &: -\frac{16r^2R(r^2+4rR-s^2)^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(3r^4+8rRs^2-s^4+2r^2(-6R^2+s^2))^2}
\end{aligned}$$

$$\begin{aligned}
& |X_{31}X_{39}|^2: \\
& - \left((4 r^4 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 - 15 s^8 + 20 r^6 (8 R^2 + s^2) + 4 r^5 (160 R^3 + 51 R s^2) + \right. \\
& \quad 2 r^4 (640 R^4 + 318 R^2 s^2 - 53 s^4) + 4 r^3 (256 R^5 + 104 R^3 s^2 - 153 R s^4) - \\
& \quad 4 r^2 (144 R^4 s^2 + 218 R^2 s^4 - 29 s^6) + 12 r (8 R^3 s^4 + 19 R s^6)) / \\
& \quad \left. (3 r^6 + 30 r^5 R + 14 r R s^4 - s^6 + r^4 (96 R^2 + 5 s^2) + 4 r^3 (24 R^3 - 5 R s^2) + r^2 (-64 R^2 s^2 + s^4)) \right)^2 \\
& |X_{31}X_{40}|^2: \quad \frac{4 R (-3 r^5 - 10 r^4 R + R s^4 + 4 r^3 (2 R^2 + s^2) + 3 r^2 R (12 R^2 + s^2) - r (12 R^2 s^2 + s^4))}{(-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{41}|^2: \\
& - \left((4 r^2 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 + s^8 + 4 r^6 (40 R^2 + s^2) + 4 r^5 (160 R^3 + 3 R s^2) + 4 r^2 \right. \\
& \quad s^2 (-144 R^4 + 38 R^2 s^2 + s^4) + 2 r^4 (640 R^4 - 66 R^2 s^2 + 3 s^4) + \\
& \quad 4 r^3 (256 R^5 - 152 R^3 s^2 + 23 R s^4) + 4 r (24 R^3 s^4 - 7 R s^6)) / \\
& \quad \left. (3 r^5 + 30 r^4 R + 2 R s^4 + 2 r^3 (48 R^2 - 5 s^2) + 32 r^2 (3 R^3 - R s^2) + r (-28 R^2 s^2 + 3 s^4)) \right)^2 \\
& |X_{31}X_{42}|^2: \quad - \frac{16 r^4 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 - 3 s^4 + 2 r^2 (24 R^2 + 7 s^2) + 4 r (16 R^3 + 7 R s^2))}{(3 r^4 + 8 r R s^2 - s^4 + 2 r^2 (-6 R^2 + s^2))^2} \\
& |X_{31}X_{43}|^2: \quad (4 r^2 R (6 r^7 + 77 r^6 R + R s^6 + 2 r^5 (156 R^2 + 5 s^2) + 7 r^4 (48 R^3 - 19 R s^2) + \\
& \quad r^3 (-256 R^4 - 224 R^2 s^2 + 2 s^4) + r^2 (144 R^3 s^2 + 47 R s^4) - 2 r (12 R^2 s^4 + s^6)) / \\
& \quad (-3 r^4 + 18 r^3 R - 14 r R s^2 + s^4 + r^2 (48 R^2 - 2 s^2))^2 \\
& |X_{31}X_{44}|^2: \\
& - \frac{4 r^2 R (9 r^6 R - 4 R s^6 + 18 r^5 (6 R^2 - s^2) + 6 r^4 (72 R^3 - 7 R s^2) + 12 r^3 (48 R^4 - 19 R^2 s^2 + s^4) - 5 r^2 (84 R^3 s^2 - 5 R s^4) + r (88 R^2 s^4 - 2 s^6))}{(9 r^4 + 54 r^3 R - 18 r R s^2 + s^4 + r^2 (72 R^2 - 6 s^2))^2} \\
& |X_{31}X_{45}|^2: \\
& - \frac{4 r^2 R (9 r^6 R - 16 R s^6 + 36 r^5 (3 R^2 - s^2) + 6 r^4 (72 R^3 - 35 R s^2) + 12 r^3 (48 R^4 - 59 R^2 s^2 + 6 s^4) + r^2 (-804 R^3 s^2 + 229 R s^4) + 4 r (76 R^2 s^4 - 5 s^6))}{(-9 r^4 - 54 r^3 R - 72 r^2 R^2 + 6 r R s^2 + s^4)^2} \\
& |X_{31}X_{46}|^2: \quad - \frac{4 r^2 R (3 r^5 + 19 r^4 R - R^3 s^2 + 4 r^3 (8 R^2 - s^2) + r^2 (11 R^3 - 9 R s^2) + r (16 R^4 - 4 R^2 s^2 + s^4))}{(r - R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{55}|^2: \quad - \frac{r^2 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 - 3 s^4 + 2 r^2 (24 R^2 + 7 s^2) + 4 r (16 R^3 + 7 R s^2))}{(r + R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{56}|^2: \quad \frac{r^2 R^2 (11 r^4 + 4 r^3 R + 4 R^2 s^2 - s^4 - 2 r^2 (16 R^2 + 3 s^2) + r (-64 R^3 + 20 R s^2))}{(r - R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{57}|^2: \quad - \frac{4 r^2 R (3 r^5 + 28 r^4 R - 4 R^3 s^2 + R s^4 + r^3 (84 R^2 - 4 s^2) + 3 r^2 (32 R^3 - 5 R s^2) + r (64 R^4 - 24 R^2 s^2 + s^4))}{(r - 2 R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{58}|^2: \quad - \frac{16 r^4 R^3 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(9 r^4 + 30 r^3 R - 10 r R s^2 + s^4 + 6 r^2 (4 R^2 - s^2))^2} \\
& |X_{31}X_{63}|^2: \quad - \frac{R (r^2 + 4 r R - s^2)^2 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(r + R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{65}|^2: \quad - \frac{r^2 (18 r^5 + 105 r^4 R - 4 R^3 s^2 + R s^4 + 12 r^3 (17 R^2 - s^2) + 2 r^2 (80 R^3 - 19 R s^2) + 2 r (32 R^4 - 14 R^2 s^2 + s^4))}{R (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{31}X_{69}|^2: \quad (-3 r^{10} - 48 r^9 R - 24 r R s^8 + s^{10} - r^8 (304 R^2 + 71 s^2) - 40 r^7 (24 R^3 + 13 R s^2) - \\
& \quad 2 r^6 (768 R^4 + 736 R^2 s^2 - 63 s^4) - 8 r^5 (128 R^5 + 240 R^3 s^2 - 65 R s^4) + \\
& \quad r^4 (-960 R^4 s^2 + 560 R^2 s^4 - 58 s^6) + 8 r^3 (8 R^3 s^4 - 7 R s^6) + r^2 (128 R^2 s^6 + 5 s^8)) / \\
& \quad (3 r^4 + 18 r^3 R - 10 r R s^2 + s^4 + 4 r^2 (6 R^2 - s^2))^2 \\
& |X_{31}X_{72}|^2: \\
& - \frac{9 r^7 - 78 r^6 R + R s^6 - 3 r^5 (88 R^2 - 5 s^2) + r^4 (-412 R^3 + 77 R s^2) + r^3 (-256 R^4 + 168 R^2 s^2 - 7 s^4) + 4 r^2 (36 R^3 s^2 - 5 R s^4) + r (-24 R^2 s^4 + s^6)}{R (-3 r^2 - 6 r R + s^2)^2}
\end{aligned}$$

$$|X_{31}X_{75}|^2: \quad \left(-3r^{10} - 48r^9R - 24rRs^8 + s^{10} - r^8(304R^2 + 11s^2) + r^7(-960R^3 + 152Rs^2) - \right. \\ \left. 2r^6(768R^4 - 576R^2s^2 + 7s^4) - 8r^5(128R^5 - 272R^3s^2 + 27Rs^4) + \right. \\ \left. 2r^4(544R^4s^2 - 344R^2s^4 - 3s^6) - 72r^3(8R^3s^4 - Rs^6) + r^2(160R^2s^6 + s^8) \right) / \\ \left(3r^4 + 18r^3R + 2rRs^2 - s^4 + 2r^2(12R^2 + s^2) \right)^2$$

$$|X_{31}X_{76}|^2: \\ - \left((3r^{14} + 72r^{13}R + 32rRs^{12} - s^{14} - 3r^2s^{10}(112R^2 + s^2) + 8r^3Rs^8(168R^2 + 5s^2) + \right. \\ \left. r^{12}(736R^2 + 17s^2) + 40r^{11}(104R^3 + 5Rs^2) + r^4s^6(-576R^4 - 416R^2s^2 + 3s^4) + \right. \\ \left. r^{10}(14080R^4 + 1008R^2s^2 + 39s^4) + 16r^9(1792R^5 + 216R^3s^2 + 7Rs^4) + \right. \\ \left. r^8(32768R^6 + 9152R^4s^2 - 1984R^2s^4 + 45s^6) + \right. \\ \left. 16r^7(1024R^7 + 864R^5s^2 - 648R^3s^4 - 7Rs^6) + \right. \\ \left. r^6(7168R^6s^2 - 16768R^4s^4 + 1760R^2s^6 + 25s^8) - 8r^5(960R^5s^4 - 496R^3s^6 + 11Rs^8) \right) / \\ \left(3r^6 + 30r^5R + 14rRs^4 - s^6 + r^4(96R^2 + 5s^2) + 4r^3(24R^3 - 5Rs^2) + r^2(-64R^2s^2 + s^4) \right)^2$$

$$|X_{31}X_{78}|^2: \\ - \frac{R(12r^7 + 79r^6R + 24rRs^4 - Rs^6 + 16r^5(14R^2 - s^2) + r^4(320R^3 - 31Rs^2) + 4r^3(64R^4 - 22R^2s^2 + s^4) + r^2(-144R^3s^2 + Rs^4))}{(r-R)^2(-3r^2 - 6rRs^2)^2}$$

$$|X_{31}X_{79}|^2: \\ \frac{4r^2(6r^6 + 60r^5R + 9R^4s^4 + 6R^2s^4 - 2s^6 + r^4(206R^2 - 38s^2) + 2r^3(127R^3 - 80Rs^2) - 3r^2(R^4 + 68R^2s^2 - 6s^4) - 6r(24R^5 + 11R^3s^2 - 6Rs^4))}{(2r+3R)^2(-3r^2 - 6rRs^2)^2}$$

$$|X_{31}X_{80}|^2: \\ \frac{4r^2(12r^5 + 72r^4R - R^3s^2 + 8r^3(17R^2 - 2s^2) + 4r(-2R^2 + s^2)^2 + r^2(83R^3 - 40Rs^2))}{(2r-R)(-3r^2 - 6rRs^2)^2}$$

$$|X_{31}X_{81}|^2: \\ - \frac{r^2R(r^2 + 4rRs^2)^2(6r^3 + 19r^2R + 16rRs^2 - 2Rs^2 - Rs^2)}{(3r^4 + 9r^3R - 7rRs^2 + s^4 + r^2(6R^2 - 4s^2))^2}$$

$$|X_{31}X_{83}|^2: \\ \left(21r^{14} + 504r^{13}R - 32rRs^{12} + s^{14} + r^2s^{10}(368R^2 + 11s^2) - 8r^3Rs^8(280R^2 + 29s^2) + \right. \\ \left. r^{12}(5024R^2 + 47s^2) + 8r^{11}(3320R^3 + 31Rs^2) + r^{10}(78080R^4 - 2832R^2s^2 - 15s^4) + \right. \\ \left. r^4s^6(8256R^4 + 1888R^2s^2 - 3s^4) + 16r^9(7424R^5 - 1680R^3s^2 - 23Rs^4) + \right. \\ \left. r^8(65536R^6 - 74176R^4s^2 + 2944R^2s^4 - 109s^6) - \right. \\ \left. 16r^7(1024R^7 + 3552R^5s^2 - 1504R^3s^4 - 23Rs^6) + \right. \\ \left. r^6(25600R^6s^2 + 27008R^4s^4 - 4064R^2s^6 - 81s^8) - 8r^5(2368R^5s^4 + 1088R^3s^6 - 35Rs^8) \right) / \\ \left(15r^6 + 150r^5R + 70rRs^4 - 5s^6 + r^4(480R^2 - 23s^2) + \right. \\ \left. 4r^3(120R^3 - 49Rs^2) + r^2(-320R^2s^2 + 21s^4) \right)^2$$

$$|X_{31}X_{85}|^2: \\ - \left((3r^{10} + 72r^9R - s^{10} + 32rRs^6(-2R^2 + s^2) + r^8(736R^2 + 11s^2) + 8r^7(520R^3 + 7Rs^2) + \right. \\ \left. 2r^6(7040R^4 - 184R^2s^2 + 7s^4) + 8r^5(3584R^5 - 400R^3s^2 + 39Rs^4) + \right. \\ \left. 2r^4(16384R^6 - 3872R^4s^2 + 672R^2s^4 + 3s^6) + 8r^3 \right. \\ \left. (2048R^7 - 832R^5s^2 + 272R^3s^4 - 19Rs^6) - r^2(1024R^6s^2 - 1280R^4s^4 + 368R^2s^6 + s^8) \right) / \\ \left(3r^4 + 30r^3R - s^2(16R^2 + s^2) + 2r^2(48R^2 + s^2) + r(96R^3 - 2Rs^2) \right)^2$$

$$|X_{31}X_{86}|^2: \\ - \left((3r^{10} + 48r^9R + 8rRs^8 - s^{10} + r^8(304R^2 + 59s^2) + 8r^7(120R^3 + 47Rs^2) + 2r^6 \right. \\ \left. (768R^4 + 448R^2s^2 + 47s^4) + 8r^5(128R^5 + 144R^3s^2 + 45Rs^4) + \right. \\ \left. r^4(960R^4s^2 + 432R^2s^4 + 22s^6) + 8r^3(56R^3s^4 + 5Rs^6) + r^2(96R^2s^6 - 17s^8) \right) / \\ \left(3r^4 + 18r^3R + 26rRs^2 - 5s^4 + 2r^2(12R^2 + 7s^2) \right)^2$$

$$|X_{31}X_{88}|^2:$$

$$-\left((r^2 R (162 r^7 + 1251 r^6 R - R s^6 + 18 r^5 (132 R^2 - 17 s^2) + 3 r^4 (144 R^3 - 73 R s^2) + 6 r^3 (384 R^4 + 32 R^2 s^2 + 9 s^4) + r^2 (240 R^3 s^2 - 191 R s^4) + r (-8 R^2 s^4 + 10 s^6)) + (-9 r^4 + 27 r^3 R + 90 r^2 R^2 - 21 r R s^2 + s^4)^2 \right) /$$

$$|X_{31}X_{89}|^2: -\left((r^2 R (324 r^7 + 3303 r^6 R - R s^6 + 36 r^5 (318 R^2 - 5 s^2) + 4 r s^4 (-8 R^2 + s^2) + 3 r^4 (5328 R^3 - 305 R s^2) + 12 r^3 (768 R^4 - 142 R^2 s^2 + s^4) + r^2 (192 R^3 s^2 - 59 R s^4)) + (18 r^4 + 27 r^3 R - 9 r R s^2 + 2 s^4 - 6 r^2 (3 R^2 + 2 s^2))^2 \right) /$$

$$|X_{31}X_{99}|^2:$$

$$(-3 r^{10} - 48 r^9 R - 24 r R s^8 + s^{10} + 8 r^3 R s^4 (8 R^2 + s^2) - 40 r^7 R (24 R^2 + s^2) - r^8 (304 R^2 + 11 s^2) - 2 r^6 (768 R^4 + 112 R^2 s^2 + 7 s^4) - 8 r^5 (128 R^5 + 96 R^3 s^2 - 5 R s^4) + r^4 (-960 R^4 s^2 + 208 R^2 s^4 - 6 s^6) + r^2 (128 R^2 s^6 + s^8)) /$$

$$\left((-3 r^2 - 6 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right)$$

$$|X_{31}X_{141}|^2: (3 r^{10} + 48 r^9 R - 24 r R s^8 + s^{10} + r^8 (284 R^2 - 67 s^2) + 8 r^7 (90 R^3 - 73 R s^2) + 2 r^6 (288 R^4 - 880 R^2 s^2 + 59 s^4) - 8 r^5 (32 R^5 + 250 R^3 s^2 - 73 R s^4) + r^4 (-496 R^4 s^2 + 652 R^2 s^4 - 62 s^6) - 8 r^3 (12 R^3 s^4 + 11 R s^6) + r^2 (136 R^2 s^6 + 7 s^8)) /$$

$$(4 (3 r^4 + 18 r^3 R - 10 r R s^2 + s^4 + 4 r^2 (6 R^2 - s^2))^2)$$

$$|X_{31}X_{142}|^2:$$

$$\frac{1}{4 (r+4 R)^2 (-3 r^2 - 6 r R + s^2)^2}$$

$$(3 r^8 + 48 r^7 R - 48 r R^3 s^4 + 4 R^2 s^6 + r^6 (284 R^2 - 43 s^2) + 80 r^5 (9 R^3 - 4 R s^2) + r^4 (576 R^4 - 784 R^2 s^2 + 17 s^4) - 16 r^3 (16 R^5 + 45 R^3 s^2 - 5 R s^4) - r^2 (240 R^4 s^2 - 72 R^2 s^4 + s^6))$$

$$|X_{31}X_{145}|^2: \frac{57 r^6 - 72 r^5 R - 32 r R s^4 + s^6 - r^4 (880 R^2 + 13 s^2) - 8 r^3 (128 R^3 - 19 R s^2) + 5 r^2 (64 R^2 s^2 - s^4)}{(-3 r^2 - 6 r R + s^2)^2}$$

$$|X_{31}X_{190}|^2:$$

$$(-27 r^{10} - 432 r^9 R - 40 r R s^8 + s^{10} - 9 r^8 (304 R^2 + 3 s^2) + r^7 (-8640 R^3 + 744 R s^2) - 6 r^6 (2304 R^4 - 752 R^2 s^2 - 3 s^4) - 8 r^5 (1152 R^5 - 1344 R^3 s^2 + 73 R s^4) + 2 r^4 (4896 R^4 s^2 - 1336 R^2 s^4 + 5 s^6) - 8 r^3 (456 R^3 s^4 - 31 R s^6) + r^2 (576 R^2 s^6 - 7 s^8)) /$$

$$(9 r^4 + 54 r^3 R - 18 r R s^2 + s^4 + r^2 (72 R^2 - 6 s^2))^2$$

$$|X_{31}X_{192}|^2:$$

$$(-15 r^{10} - 240 r^9 R - 40 r R s^8 + s^{10} + r^8 (-1504 R^2 + 5 s^2) - 8 r^7 (576 R^3 - 89 R s^2) + r^6 (-6912 R^4 + 4080 R^2 s^2 + 42 s^4) - 8 r^5 (512 R^5 - 1072 R^3 s^2 + 89 R s^4) + 2 r^4 (3200 R^4 s^2 - 1536 R^2 s^4 + 5 s^6) - 8 r^3 (400 R^3 s^4 - 43 R s^6) + r^2 (560 R^2 s^6 - 11 s^8)) /$$

$$(3 r^4 + 18 r^3 R + 2 r R s^2 - s^4 + 2 r^2 (12 R^2 + s^2))^2$$

$$|X_{31}X_{194}|^2:$$

$$(-15 r^{14} - 360 r^{13} R - 32 r R s^{12} + s^{14} + r^2 s^{10} (320 R^2 - 9 s^2) - 40 r^{11} R (512 R^2 + s^2) - r^{12} (3664 R^2 + 25 s^2) - r^4 s^6 (3072 R^4 + 1232 R^2 s^2 + 11 s^4) + r^{10} (-67840 R^4 + 1664 R^2 s^2 + 37 s^4) - 16 r^9 (8320 R^5 - 600 R^3 s^2 - 21 R s^4) + r^8 (-143360 R^6 + 18944 R^4 s^2 + 4256 R^2 s^4 + 99 s^6) - 16 r^7 (4096 R^7 - 896 R^5 s^2 - 1144 R^3 s^4 + 21 R s^6) + r^6 (4096 R^6 s^2 + 30464 R^4 s^4 - 2624 R^2 s^6 + 51 s^8) + 8 r^5 (2048 R^5 s^4 - 560 R^3 s^6 - 9 R s^8) + r^3 (-896 R^3 s^8 + 248 R s^{10})) /$$

$$(3 r^6 + 30 r^5 R + 14 r R s^4 - s^6 + r^4 (96 R^2 + 5 s^2) + 4 r^3 (24 R^3 - 5 R s^2) + r^2 (-64 R^2 s^2 + s^4))^2$$

$$|X_{31}X_{200}|^2: -\frac{4R(4r^6R+192r^4R^3+24rR^2s^4-Rs^6+6r^5(8R^2-s^2)-r^2Rs^2(144R^2+s^2)+2r^3(128R^4-24R^2s^2+s^4))}{(r-2R)^2(-3r^2-6rR+s^2)^2}$$

$$|X_{31}X_{210}|^2: \frac{-9r^6R+4Rs^6-18r^5(6R^2-s^2)-6r^4(72R^3-7Rs^2)-12r^3(48R^4-19R^2s^2+s^4)+5r^2(84R^3s^2-5Rs^4)+r(-88R^2s^4+2s^6)}{9R(-3r^2-6rR+s^2)^2}$$

$$|X_{31}X_{213}|^2: -\left((4r^4R^2(r^8+20r^7R-4R^2s^6+s^8+4r^6(40R^2+s^2)+4r^5(160R^3+3Rs^2)+4r^2s^2(-144R^4+38R^2s^2+s^4)+2r^4(640R^4-66R^2s^2+3s^4)+4r^3(256R^5-152R^3s^2+23Rs^4)+4r(24R^3s^4-7Rs^6)))\right)/\left((3r^6+30r^5R-10rRs^4+s^6+r^4(96R^2-s^2)+4r^3R(24R^2+s^2)+r^2(8R^2s^2-3s^4))^2\right)$$

$$|X_{31}X_{238}|^2: \frac{4r^2R^2(9r^6+72r^5R-72r^3Rs^2+11r^2s^4-16rRs^4+s^6+9r^4(16R^2-5s^2))}{(9r^4+54r^3R-18rRs^2+s^4+r^2(72R^2-6s^2))^2}$$

$$|X_{31}X_{239}|^2: (9r^{10}+144r^9R-24rRs^8+s^{10}+3r^8(288R^2+7s^2)+72r^7(32R^3+3Rs^2)+2r^6(1152R^4+360R^2s^2+5s^4)+8r^5(96R^3s^2-35Rs^4)-6r^4(128R^2s^4+s^6)-8r^3(32R^3s^4-17Rs^6)+3r^2(48R^2s^6-s^8))/\left((9r^4+54r^3R-18rRs^2+s^4+r^2(72R^2-6s^2))^2\right)$$

$$|X_{31}X_{244}|^2: -\frac{64r^4R(3r^5+28r^4R-4R^3s^2+Rs^4+r^3(84R^2-4s^2)+3r^2(32R^3-5Rs^2)+r(64R^4-24R^2s^2+s^4))}{(-3r^4+36r^3R-20rRs^2+s^4+r^2(84R^2-2s^2))^2}$$

$$|X_{31}X_{304}|^2: (-3r^{14}-72r^{13}R-32rRs^{12}+s^{14}-r^2s^{10}(-336R^2+s^2)-r^{12}(736R^2+5s^2)+r^{11}(-4160R^3+88Rs^2)+r^4s^6(3648R^4-1120R^2s^2-7s^4)+r^{10}(-14080R^4+1744R^2s^2+5s^4)-16r^9(1792R^5-616R^3s^2+41Rs^4)+r^8(-32768R^6+24640R^4s^2-5568R^2s^4+11s^6)-16r^7(1024R^7-1696R^5s^2+1040R^3s^4-53Rs^6)+r^6(9216R^6s^2-20864R^4s^4+3808R^2s^6-s^8)-8r^5(1216R^5s^4-784R^3s^6+33Rs^8)+r^3(-1472R^3s^8+88Rs^{10}))/\left((3r^6+30r^5R-14rRs^4+s^6+r^4(96R^2-s^2)+16r^3R(6R^2+s^2)+r^2(32R^2s^2-3s^4))^2\right)$$

$$|X_{31}X_{306}|^2: \frac{r^6+8r^5R-24r^3Rs^2+7r^2s^4-16rRs^4+s^6+r^4(16R^2-9s^2)}{(-3r^2-6rR+s^2)^2}$$

$$|X_{31}X_{312}|^2: (-3r^{10}-72r^9R-32rRs^8+s^{10}-r^8(448R^2+11s^2)+r^7(-960R^3+328Rs^2)-2r^6(384R^4-328R^2s^2+7s^4)-8r^5(128R^5-136R^3s^2+7Rs^4)+r^4(2112R^4s^2-352R^2s^4-6s^6)-8r^3(176R^3s^4-3Rs^6)+r^2(336R^2s^6+s^8))/\left((-3r^4+18r^3R-14rRs^2+s^4+r^2(48R^2-2s^2))^2\right)$$

$$|X_{31}X_{319}|^2: -\left((3r^{10}+48r^9R+216rRs^8-9s^{10}+r^8(304R^2+131s^2)+8r^7(120R^3+149Rs^2)+2r^6(768R^4+2048R^2s^2-265s^4)+8r^5(128R^5+752R^3s^2-253Rs^4)+2r^4(1504R^4s^2-648R^2s^4+171s^6)+24r^3(56R^3s^4+5Rs^6)-3r^2(416R^2s^6+11s^8))\right)/\left((3r^4+18r^3R-22rRs^2+3s^4+2r^2(12R^2-5s^2))^2\right)$$

$$|X_{31}X_{320}|^2: (-27r^{10}-432r^9R-24rRs^8+s^{10}-9r^8(304R^2+51s^2)-72r^7(120R^3+37Rs^2)-6r^6(2304R^4+896R^2s^2-75s^4)-24r^5(384R^5+208R^3s^2-71Rs^4)-2r^4(1248R^4s^2-904R^2s^4+67s^6)+8r^3(88R^3s^4-23Rs^6)+r^2(96R^2s^6+9s^8))/\left((9r^4+54r^3R-18rRs^2+s^4+r^2(72R^2-6s^2))^2\right)$$

$$|X_{31}X_{321}|^2: \quad \left(-3r^{10} - 60r^9R - 28rRs^8 + s^{10} - r^8(412R^2 + 11s^2) - \right. \\ \left. 48r^7(26R^3 - 5Rs^2) - 2r^6(864R^4 - 542R^2s^2 + 7s^4) - 8r^5(128R^5 - 240R^3s^2 + 17Rs^4) + \right. \\ \left. 2r^4(800R^4s^2 - 282R^2s^4 - 3s^6) + r^3(-928R^3s^4 + 48Rs^6) + r^2(244R^2s^6 + s^8) \right) / \\ \left(3r^4 + 8rRs^2 - s^4 + 2r^2(-6R^2 + s^2) \right)^2$$

$$|X_{31}X_{345}|^2: \quad \left(21r^{10} + 216r^9R - 32rRs^8 + s^{10} + r^8(704R^2 - 103s^2) + 8r^7(72R^3 - 71Rs^2) - \right. \\ \left. 2r^6(384R^4 + 232R^2s^2 - 55s^4) - 8r^5(128R^5 - 200R^3s^2 - 17Rs^4) + \right. \\ \left. r^4(2112R^4s^2 - 896R^2s^4 - 26s^6) - 8r^3(176R^3s^4 - 15Rs^6) + r^2(336R^2s^6 - 3s^8) \right) / \\ \left(15r^4 + 54r^3R - 14rRs^2 + s^4 + 8r^2(6R^2 - s^2) \right)^2$$

$$|X_{31}X_{346}|^2: \quad \left(-32rRs^8 + s^{10} - 48r^7R(4R^2 + s^2) - 4r^8(4R^2 + 3s^2) + r^6(-768R^4 + 96R^2s^2 + 37s^4) - \right. \\ \left. 8r^5(128R^5 - 168R^3s^2 - 7Rs^4) + r^4(2112R^4s^2 - 624R^2s^4 - 17s^6) - \right. \\ \left. 8r^3(176R^3s^4 - 9Rs^6) + r^2(336R^2s^6 - s^8) \right) / \\ \left(6r^4 + 36r^3R - 14rRs^2 + s^4 + r^2(48R^2 - 5s^2) \right)^2$$

$$|X_{31}X_{350}|^2: \quad \left(-3r^{14} - 72r^{13}R - 32rRs^{12} + s^{14} - 72r^3Rs^8(8R^2 + s^2) - 104r^{11}R(40R^2 + s^2) + \right. \\ \left. r^2s^{10}(304R^2 + 3s^2) - r^{12}(736R^2 + 17s^2) + r^{10}(-14080R^4 + 432R^2s^2 - 39s^4) - \right. \\ \left. 16r^9(1792R^5 - 304R^3s^2 - 9Rs^4) + r^8(-32768R^6 + 13888R^4s^2 + 2432R^2s^4 - 45s^6) + \right. \\ \left. 16r^7R(-1024R^6 + 1056R^4s^2 + 456R^2s^4 + 19s^6) + \right. \\ \left. r^6(9216R^6s^2 + 11136R^4s^4 - 2144R^2s^6 - 25s^8) + \right. \\ \left. 8r^5(832R^5s^4 - 800R^3s^6 + 11Rs^8) + r^4(-3520R^4s^6 + 992R^2s^8 - 3s^{10}) \right) / \\ \left(3r^6 + 30r^5R + 22rRs^4 - s^6 + r^4(96R^2 + 5s^2) + r^3(96R^3 - 44Rs^2) + r^2(-112R^2s^2 + s^4) \right)^2$$

$$|X_{32}X_{35}|^2: \quad - \left((4r^2R^2(r^7R - s^6(R^2 + 2s^2)) + 2r^6(8R^2 + 5s^2) + r^5(96R^3 + 87Rs^2) + \right. \\ \left. r^4(256R^4 + 207R^2s^2 - 30s^4) + r^3(256R^5 + 40R^3s^2 - 141Rs^4) - \right. \\ \left. 2r^2(72R^4s^2 + 57R^2s^4 - 11s^6) + r(24R^3s^4 + 29Rs^6) \right) / \\ \left((2r + R)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 3s^2))^2 \right)$$

$$|X_{32}X_{36}|^2: \quad \frac{4r^2R^2(r^7 + 16r^6R - Rs^6 + r^5(96R^2 - 11s^2)) + r^4(256R^3 - 97Rs^2) + r^3(256R^4 - 248R^2s^2 + 15s^4) + r^2(-144R^3s^2 + 62Rs^4) + r(24R^2s^4 - 5s^6)}{(2r - R)(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 3s^2))^2}$$

$$|X_{32}X_{37}|^2: \quad - \left((16r^2Rs^4(2r^7 + 27r^6R - Rs^6 + 2r^5(68R^2 - 7s^2) + r^4(304R^3 - 83Rs^2) + \right. \\ \left. 2r^3(128R^4 - 96R^2s^2 + 7s^4) + r^2(-144R^3s^2 + 33Rs^4) + r(24R^2s^4 - 2s^6)) \right) / \\ \left(r^6 + 12r^5R - 4rRs^4 + s^6 + r^4(48R^2 - 5s^2) + 8r^3(8R^3 - 3Rs^2) - r^2(16R^2s^2 + 5s^4) \right)^2$$

$$|X_{32}X_{38}|^2: \quad - \left((4r^2R(2r^{11} + 49r^{10}R - 4Rs^{10} + r^9(500R^2 - 34s^2) - 10Rs^8(-12R^2 + s^2) + 32r^8 \right. \\ \left. (85R^3 - 18Rs^2) + 4r^7(2080R^4 - 963R^2s^2 + 41s^4) + \right. \\ \left. 2r^6(6784R^5 - 6290R^3s^2 + 851Rs^4) + 4r^5(2304R^6 - 4920R^4s^2 + 1601R^2s^4 - 53s^6) - \right. \\ \left. 4r^4(2832R^5s^2 - 2518R^3s^4 + 317Rs^6) + \right. \\ \left. r^3(5344R^4s^4 - 2308R^2s^6 + 90s^8) + r^2(-1188R^3s^6 + 241Rs^8) \right) / \\ \left(r^6 + 6r^5R - 5r^4s^2 - 10rRs^4 + s^6 - 4r^3(8R^3 - 3Rs^2) + r^2(32R^2s^2 - 5s^4) \right)^2$$

$$|X_{32}X_{39}|^2: \quad \left(64r^4R^2s^4(r^2 + 4rR - s^2)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2)) \right) / \\ \left(r^8 + 16r^7R - 16rRs^6 + s^8 + r^6(96R^2 - 4s^2) + 16r^5(16R^3 - 3Rs^2) + \right. \\ \left. 2r^4(128R^4 - 96R^2s^2 - 5s^4) + r^3(-256R^3s^2 + 48Rs^4) + r^2(96R^2s^4 - 4s^6) \right)^2$$

$$|X_{32}X_{40}|^2: \quad \left(4R \left(r^8 R + R s^8 + r^2 R s^4 \left(96R^2 + s^2 \right) + \right. \right. \\ \left. r^7 \left(16R^2 + 3s^2 \right) + r^6 \left(96R^3 + 17R s^2 \right) + r^5 \left(256R^4 - 24R^2 s^2 - 19s^4 \right) + \right. \\ \left. 16r^4 \left(16R^5 - 15R^3 s^2 - 2R s^4 \right) + r^3 \left(-256R^4 s^2 + 56R^2 s^4 + 9s^6 \right) - r \left(16R^2 s^6 + s^8 \right) \right) / \\ \left(r^4 + 8r^3 R - 8r R s^2 + s^4 + 2r^2 \left(8R^2 - 3s^2 \right) \right)^2$$

$$|X_{32}X_{41}|^2: \\ - \left(\left(4r^2 R^2 s^4 \left(r^8 + 20r^7 R - 4R^2 s^6 + s^8 + 4r^6 \left(40R^2 + s^2 \right) + 4r^5 \left(160R^3 + 3R s^2 \right) + 4 \right. \right. \right. \\ \left. r^2 s^2 \left(-144R^4 + 38R^2 s^2 + s^4 \right) + 2r^4 \left(640R^4 - 66R^2 s^2 + 3s^4 \right) + \right. \\ \left. 4r^3 \left(256R^5 - 152R^3 s^2 + 23R s^4 \right) + 4r \left(24R^3 s^4 - 7R s^6 \right) \right) / \\ \left(r^7 + 16r^6 R - 2R s^6 + r^5 \left(96R^2 - 9s^2 \right) + r^4 \left(256R^3 - 82R s^2 \right) + \right. \\ \left. r^3 \left(256R^4 - 224R^2 s^2 + 19s^4 \right) + r^2 \left(-160R^3 s^2 + 44R s^4 \right) + r \left(32R^2 s^4 - 3s^6 \right) \right)^2$$

$$|X_{32}X_{42}|^2: \\ - \left(\left(4r^4 R^2 \left(r^8 + 20r^7 R - 4R^2 s^6 - 15s^8 + 4r^6 \left(40R^2 + s^2 \right) + 4r^5 \left(160R^3 + 3R s^2 \right) + 2 \right. \right. \right. \\ \left. r^4 \left(640R^4 - 66R^2 s^2 - 37s^4 \right) + 4r^3 \left(256R^5 - 152R^3 s^2 - 89R s^4 \right) - \right. \\ \left. 4r^2 \left(144R^4 s^2 + 90R^2 s^4 - 41s^6 \right) + 4r \left(24R^3 s^4 + 41R s^6 \right) \right) / \\ \left(r^6 + 6r^5 R - 5r^4 s^2 - 10r R s^4 + s^6 - 4r^3 \left(8R^3 - 3R s^2 \right) + r^2 \left(32R^2 s^2 - 5s^4 \right) \right)^2$$

$$|X_{32}X_{43}|^2: \\ \left(4r^2 R \left(r^{11} + 20r^{10} R + R s^{10} + r^9 \left(160R^2 - 7s^2 \right) + 72r^2 R s^6 \left(2R^2 + s^2 \right) - 3r s^8 \left(8R^2 + s^2 \right) + \right. \right. \\ \left. r^8 \left(640R^3 - 143R s^2 \right) + 2r^7 \left(640R^4 - 468R^2 s^2 + s^4 \right) + \right. \\ \left. 4r^6 \left(256R^5 - 604R^3 s^2 + 91R s^4 \right) + r^5 \left(-2048R^4 s^2 + 1592R^2 s^4 + 26s^6 \right) + \right. \\ \left. 2r^4 \left(592R^3 s^4 - 213R s^6 \right) + r^3 \left(-256R^4 s^4 - 408R^2 s^6 + 13s^8 \right) \right) / \\ \left(r^6 - 16r R s^4 + s^6 - r^4 \left(48R^2 + 5s^2 \right) - 16r^3 \left(8R^3 - 3R s^2 \right) + r^2 \left(80R^2 s^2 - 5s^4 \right) \right)^2$$

$$|X_{32}X_{44}|^2: \\ - \frac{16r^2 R s^4 \left(4r^7 + 43r^6 R + 24r R^2 s^4 - R s^6 + 24r^5 \left(7R^2 - s^2 \right) + r^4 \left(304R^3 - 3R s^2 \right) + 4r^3 \left(64R^4 - 24R^2 s^2 + s^4 \right) + r^2 \left(-144R^3 s^2 + R s^4 \right) \right)}{\left(3r^6 + 36r^5 R + 20r R s^4 - s^6 + r^4 \left(144R^2 - 19s^2 \right) + 8r^3 \left(24R^3 - 13R s^2 \right) + r^2 \left(-112R^2 s^2 + 9s^4 \right) \right)^2}$$

$$|X_{32}X_{45}|^2: \\ - \left(\left(16r^2 R s^4 \left(10r^7 + 127r^6 R - 4R s^6 + r^5 \left(600R^2 - 66s^2 \right) + 2r^4 \left(632R^3 - 147R s^2 \right) + \right. \right. \right. \\ \left. 2r^3 \left(512R^4 - 348R^2 s^2 + 23s^4 \right) + r^2 \left(-576R^3 s^2 + 103R s^4 \right) + r \left(96R^2 s^4 - 6s^6 \right) \right) / \\ \left(3r^6 + 36r^5 R + 4r R s^4 + s^6 + r^4 \left(144R^2 - 17s^2 \right) + 8r^3 \left(24R^3 - 11R s^2 \right) - \right. \\ \left. r^2 \left(80R^2 s^2 + 3s^4 \right) \right)^2$$

$$|X_{32}X_{46}|^2: \\ - \left(\left(4r^2 R \left(-R^3 s^6 + r^7 \left(R^2 - 3s^2 \right) + r^6 \left(16R^3 - 29R s^2 \right) + r^5 \left(96R^4 - 99R^2 s^2 + 19s^4 \right) + \right. \right. \right. \\ \left. r^4 \left(256R^5 - 177R^3 s^2 + 70R s^4 \right) + r^3 \left(256R^6 - 248R^4 s^2 + 71R^2 s^4 - 9s^6 \right) + \right. \\ \left. r^2 \left(-144R^5 s^2 + 62R^3 s^4 - 13R s^6 \right) + r \left(24R^4 s^4 - 5R^2 s^6 + s^8 \right) \right) / \\ \left(\left(r - R \right)^2 \left(r^4 + 8r^3 R - 8r R s^2 + s^4 + 2r^2 \left(8R^2 - 3s^2 \right) \right)^2 \right)$$

$$|X_{32}X_{55}|^2: \\ - \left(\left(r^2 R^2 \left(r^8 + 20r^7 R - 4R^2 s^6 - 3s^8 + 4r^6 \left(40R^2 + s^2 \right) + 4r^5 \left(160R^3 + 3R s^2 \right) + 2r^4 \right. \right. \right. \\ \left. \left(640R^4 - 66R^2 s^2 - 15s^4 \right) + 4r^3 \left(256R^5 - 152R^3 s^2 - 25R s^4 \right) - \right. \\ \left. 4r^2 \left(144R^4 s^2 + 10R^2 s^4 - 7s^6 \right) + 12r \left(8R^3 s^4 + 3R s^6 \right) \right) / \\ \left(\left(r + R \right)^2 \left(r^4 + 8r^3 R - 8r R s^2 + s^4 + 2r^2 \left(8R^2 - 3s^2 \right) \right)^2 \right)$$

$$|X_{32}X_{56}|^2: \quad \left(r^2 R^2 (3 r^8 + 44 r^7 R + 4 R^2 s^6 - s^8 + 28 r^6 (8 R^2 - s^2) + 12 r^5 (32 R^3 - 17 R s^2) + \right. \\ \left. r^4 (-256 R^4 - 252 R^2 s^2 + 30 s^4) + r^3 (-1024 R^5 + 608 R^3 s^2 + 36 R s^4) + \right. \\ \left. 4 r^2 (144 R^4 s^2 - 54 R^2 s^4 - s^6) + r (-96 R^3 s^4 + 28 R s^6) \right) / \\ \left((r - R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right)$$

$$|X_{32}X_{57}|^2: \\ - \left((4 r^2 R (r^8 R - 4 R^3 s^6 + R s^8 + r^7 (20 R^2 - 3 s^2) + r^6 (160 R^3 - 41 R s^2) + r^5 (640 R^4 - 240 R^2 s^2 + \right. \\ \left. 19 s^4) + 4 r^4 (320 R^5 - 189 R^3 s^2 + 27 R s^4) + r^3 (1024 R^6 - 1184 R^4 s^2 + 236 R^2 s^4 - \right. \\ \left. 9 s^6) + r^2 (-576 R^5 s^2 + 312 R^3 s^4 - 25 R s^6) + r (96 R^4 s^4 - 32 R^2 s^6 + s^8)) \right) / \\ \left((r - 2 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right)$$

$$|X_{32}X_{58}|^2: \quad \frac{4 r^4 R^2 (r^2 + 4 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(3 r^6 + 28 r^5 R + 12 r R s^4 - s^6 + r^4 (80 R^2 - 19 s^2) + 8 r^3 (8 R^3 - 7 R s^2) + r^2 (-48 R^2 s^2 + 9 s^4))^2}$$

$$|X_{32}X_{63}|^2: \\ - \left((R (r^{10} R - R s^{10} + r^9 (20 R^2 - 6 s^2) + r^8 (160 R^3 - 93 R s^2) + r^7 (640 R^4 - 592 R^2 s^2 + 44 s^4) + \right. \\ \left. 2 r^6 (640 R^5 - 954 R^3 s^2 + 203 R s^4) + 8 r^5 (128 R^6 - 372 R^4 s^2 + 172 R^2 s^4 - 7 s^6) - \right. \\ \left. 2 r^4 (800 R^5 s^2 - 956 R^3 s^4 + 141 R s^6) + 4 r^3 (232 R^4 s^4 - 120 R^2 s^6 + 5 s^8) + \right. \\ \left. r^2 (-244 R^3 s^6 + 49 R s^8) + r (28 R^2 s^8 - 2 s^{10})) \right) / \\ \left((r + R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right)$$

$$|X_{32}X_{65}|^2: \\ - \left((r^2 (2 r^9 + 37 r^8 R - 4 R^3 s^6 + R s^8 + 12 r^7 (23 R^2 - 2 s^2) + 16 r^6 (66 R^3 - 17 R s^2) + 4 \right. \\ \left. r^5 (544 R^4 - 279 R^2 s^2 + 19 s^4) + r^4 (2304 R^5 - 2052 R^3 s^2 + 338 R s^4) + \right. \\ \left. 4 r^3 (256 R^6 - 440 R^4 s^2 + 139 R^2 s^4 - 6 s^6) - 8 r^2 (72 R^5 s^2 - 51 R^3 s^4 + 7 R s^6) + \right. \\ \left. 2 r (48 R^4 s^4 - 18 R^2 s^6 + s^8)) \right) / \left((r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right)$$

$$|X_{32}X_{69}|^2: \quad (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + 8 r^{11} R (-280 R^2 + s^2) + 8 r^3 R s^8 (-64 R^2 + s^2) + \\ r^2 s^{10} (228 R^2 + s^2) - r^{12} (336 R^2 + s^2) + r^{10} (-8960 R^4 + 292 R^2 s^2 + 99 s^4) - \\ 4 r^9 (5376 R^5 - 528 R^3 s^2 - 295 R s^4) + r^8 (-28672 R^6 + 6272 R^4 s^2 + 5344 R^2 s^4 - 413 s^6) - \\ 16 r^7 (1024 R^7 - 448 R^5 s^2 - 740 R^3 s^4 + 177 R s^6) + \\ r^6 (1024 R^6 s^2 + 13568 R^4 s^4 - 6920 R^2 s^6 + 413 s^8) + \\ 4 r^5 (1536 R^5 s^4 - 1520 R^3 s^6 + 295 R s^8) + r^4 (-1408 R^4 s^6 + 624 R^2 s^8 - 99 s^{10})) / \\ (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 - 7 s^2) + 8 r^3 (8 R^3 - 5 R s^2) + r^2 (-48 R^2 s^2 + 7 s^4))^2$$

$$|X_{32}X_{72}|^2: \quad (-r^{11} - 20 r^{10} R + R s^{10} + r^9 (-164 R^2 + 13 s^2) + r^8 (-704 R^3 + 181 R s^2) - \\ 2 r^7 (832 R^4 - 488 R^2 s^2 + 25 s^4) - 4 r^6 (512 R^5 - 637 R^3 s^2 + 102 R s^4) - \\ 2 r^5 (512 R^6 - 1616 R^4 s^2 + 616 R^2 s^4 - 25 s^6) + 2 r^4 (800 R^5 s^2 - 844 R^3 s^4 + 97 R s^6) + \\ r^3 (-928 R^4 s^4 + 352 R^2 s^6 - 13 s^8) + 4 r^2 (61 R^3 s^6 - 7 R s^8) + r (-28 R^2 s^8 + s^{10})) / \\ (R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2)$$

$$|X_{32}X_{75}|^2: \quad \begin{aligned} & (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + r^2 s^{10} (260 R^2 - 3 s^2) - \\ & 168 r^3 R s^8 (8 R^2 - s^2) + r^{12} (-336 R^2 + 3 s^2) - 8 r^{11} (280 R^3 - 13 R s^2) + \\ & r^4 s^6 (4736 R^4 - 1632 R^2 s^2 - 15 s^4) + r^{10} (-8960 R^4 + 1252 R^2 s^2 + 15 s^4) - \\ & 4 r^9 (5376 R^5 - 1808 R^3 s^2 + 41 R s^4) + r^8 (-28 672 R^6 + 21 632 R^4 s^2 - 2992 R^2 s^4 + 11 s^6) - \\ & 16 r^7 (1024 R^7 - 1984 R^5 s^2 + 808 R^3 s^4 - 63 R s^6) + r^6 \\ & (17 408 R^6 s^2 - 20 992 R^4 s^4 + 4792 R^2 s^6 - 11 s^8) - 4 r^5 (2816 R^5 s^4 - 2000 R^3 s^6 + 137 R s^8) \big) / \\ & (r^6 + 12 r^5 R - 4 r R s^4 + s^6 + r^4 (48 R^2 - 5 s^2) + 8 r^3 (8 R^3 - 3 R s^2) - r^2 (16 R^2 s^2 + 5 s^4))^2 \end{aligned}$$

$$|X_{32}X_{76}|^2: \quad \begin{aligned} & - \big((r^{18} + 36 r^{17} R + 36 r R s^{16} - s^{18} + 32 r^3 R s^{12} (87 R^2 - 2 s^2) + r^{16} (576 R^2 - s^2) + 64 \\ & r^{15} (84 R^3 - R s^2) + 4 r^{14} (8064 R^4 - 309 R^2 s^2 - 5 s^4) + \\ & 4 r^4 s^{10} (-1584 R^4 + 98 R^2 s^2 + 5 s^4) - 16 r^5 R s^8 (576 R^4 - 218 R^2 s^2 + 21 s^4) + \\ & 16 r^{13} (8064 R^5 - 734 R^3 s^2 - 21 R s^4) + 4 r^{12} (86 016 R^6 - 15 920 R^4 s^2 - 574 R^2 s^4 - 11 s^6) - \\ & 64 r^7 R s^4 (1152 R^6 - 2320 R^4 s^2 + 565 R^2 s^4 + 3 s^6) + \\ & 4 r^6 s^6 (17 664 R^6 - 10 816 R^4 s^2 + 1189 R^2 s^4 + 11 s^6) + \\ & 32 r^{11} (18 432 R^7 - 6432 R^5 s^2 - 277 R^3 s^4 - 6 R s^6) + \\ & r^{10} (589 824 R^8 - 388 096 R^6 s^2 - 25 344 R^4 s^4 + 3988 R^2 s^6 - 26 s^8) + \\ & 2 r^8 s^2 (-73 728 R^8 - 52 224 R^6 s^2 + 57 792 R^4 s^4 - 4008 R^2 s^6 + 13 s^8) + \\ & 8 r^9 (32 768 R^9 - 48 128 R^7 s^2 - 7808 R^5 s^4 + 4616 R^3 s^6 + 11 R s^8) + r^2 (-468 R^2 s^{14} + s^{16}) \big) / \\ & (r^8 + 16 r^7 R - 16 r R s^6 + s^8 + r^6 (96 R^2 - 4 s^2) + 16 r^5 (16 R^3 - 3 R s^2) + \\ & 2 r^4 (128 R^4 - 96 R^2 s^2 - 5 s^4) + r^3 (-256 R^3 s^2 + 48 R s^4) + r^2 (96 R^2 s^4 - 4 s^6))^2 \end{aligned}$$

$$|X_{32}X_{78}|^2: \quad \begin{aligned} & - \big((R (2 r^{11} + 37 r^{10} R + 28 r R^2 s^8 - R s^{10} + 4 r^9 (69 R^2 - 5 s^2) + 3 r^8 (352 R^3 - 79 R s^2) + \\ & 8 r^7 (272 R^4 - 134 R^2 s^2 + 7 s^4) + r^6 (2304 R^5 - 2420 R^3 s^2 + 350 R s^4) + \\ & 4 r^5 (256 R^6 - 744 R^4 s^2 + 200 R^2 s^4 - 11 s^6) - 2 r^4 (800 R^5 s^2 - 636 R^3 s^4 + 37 R s^6) + \\ & 2 r^3 (464 R^4 s^4 - 96 R^2 s^6 + 3 s^8) + r^2 (-244 R^3 s^6 + 5 R s^8) \big) \big) / \\ & \big((r - R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \big) \end{aligned}$$

$$|X_{32}X_{79}|^2: \quad \begin{aligned} & - \big((4 r^2 (r^9 R - 9 R^4 s^6 - 6 R^2 s^8 + 2 s^{10} + 2 r^8 (11 R^2 + 5 s^2) + r^7 (201 R^3 + 140 R s^2) + 16 r^6 \\ & (61 R^4 + 45 R^2 s^2 - 5 s^4) + r^5 (2656 R^5 + 1543 R^3 s^2 - 666 R s^4) + r^4 (3840 R^6 + \\ & 743 R^4 s^2 - 1800 R^2 s^4 + 132 s^6) + r^3 (2304 R^7 - 1560 R^5 s^2 - 1637 R^3 s^4 + 428 R s^6) - \\ & 2 r^2 (648 R^6 s^2 + 81 R^4 s^4 - 220 R^2 s^6 + 16 s^8) + r (216 R^5 s^4 + 93 R^3 s^6 - 47 R s^8) \big) \big) / \\ & \big((2 r + 3 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \big) \end{aligned}$$

$$|X_{32}X_{80}|^2: \quad \begin{aligned} & (4 r^2 (r^9 + 18 r^8 R - R^3 s^6 + r^7 (129 R^2 - 16 s^2) + 2 r^6 (232 R^3 - 89 R s^2) + r^5 (864 R^4 - 699 R^2 s^2 + \\ & 66 s^4) + r^4 (768 R^5 - 1153 R^3 s^2 + 310 R s^4) + r^3 (256 R^6 - 760 R^4 s^2 + 463 R^2 s^4 - 40 s^6) - \\ & 2 r^2 (72 R^5 s^2 - 111 R^3 s^4 + 35 R s^6) + r (24 R^4 s^4 - 21 R^2 s^6 + 5 s^8) \big) \big) / \\ & \big((2 r - R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \big) \end{aligned}$$

$$|X_{32}X_{81}|^2: \\ - \left((r^2 R (r^{10} R - R s^{10} + 4 r^9 (5 R^2 - s^2) - 4 r s^8 (-5 R^2 + s^2) + r^8 (160 R^3 - 53 R s^2) + 16 r^7 (40 R^4 - 17 R^2 s^2 + s^4) + 16 r^3 s^4 (-14 R^4 + 3 R^2 s^2 + s^4) + 2 r^6 (640 R^5 - 314 R^3 s^2 + 29 R s^4) + 8 r^5 (128 R^6 - 52 R^4 s^2 - 17 R^2 s^4 + 5 s^6) + 2 r^4 (224 R^5 s^2 - 324 R^3 s^4 + 75 R s^6) + r^2 (-52 R^3 s^6 + 37 R s^8)) \right) / \\ (r^6 + 9 r^5 R + 9 r R s^4 - s^6 + r^4 (24 R^2 - 7 s^2) + 2 r^3 (8 R^3 - 11 R s^2) + r^2 (-24 R^2 s^2 + 7 s^4))^2$$

$$|X_{32}X_{83}|^2: \\ - \left((r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right. \\ \left. (r^{10} + 20 r^9 R + 20 r R s^8 - s^{10} + r^8 (160 R^2 + 11 s^2) + 16 r^7 (40 R^3 + 7 R s^2) + 2 r^6 (640 R^4 + 198 R^2 s^2 - 59 s^4) + 8 r^5 (128 R^5 + 76 R^3 s^2 - 73 R s^4) + 2 r^4 (224 R^4 s^2 - 324 R^2 s^4 + 59 s^6) - 112 r^3 (2 R^3 s^4 - R s^6) - r^2 (52 R^2 s^6 + 11 s^8)) \right) / \\ (5 r^8 + 80 r^7 R - 80 r R s^6 + 5 s^8 + 12 r^6 (40 R^2 - 3 s^2) + 16 r^5 (80 R^3 - 23 R s^2) + 2 r^4 (640 R^4 - 608 R^2 s^2 + 23 s^4) - 16 r^3 (80 R^3 s^2 - 23 R s^4) + 12 r^2 (40 R^2 s^4 - 3 s^6))^2$$

$$|X_{32}X_{85}|^2: \\ (-r^{14} - 36 r^{13} R + s^{14} + 4 r R s^{10} (16 R^2 - 9 s^2) + r^{12} (-576 R^2 + 3 s^2) - 24 r^{11} (224 R^3 - 5 R s^2) + r^{10} (-32 256 R^4 + 1908 R^2 s^2 + 15 s^4) - 4 r^9 (32 256 R^5 - 4056 R^3 s^2 - 25 R s^4) - 8 r^3 R s^4 (3072 R^6 - 1920 R^4 s^2 + 580 R^2 s^4 - 39 s^6) + r^2 s^6 (1024 R^6 - 1664 R^4 s^2 + 532 R^2 s^4 - 3 s^6) + r^8 (-344 064 R^6 + 81 600 R^4 s^2 - 1104 R^2 s^4 + 11 s^6) - 16 r^7 (36 864 R^7 - 15 552 R^5 s^2 + 910 R^3 s^4 - 37 R s^6) + r^4 s^2 (147 456 R^8 - 102 400 R^6 s^2 + 26 560 R^4 s^4 - 3792 R^2 s^6 - 15 s^8) + r^6 (-589 824 R^8 + 445 440 R^6 s^2 - 62 720 R^4 s^4 + 5400 R^2 s^6 - 11 s^8) - 4 r^5 (65 536 R^9 - 104 448 R^7 s^2 + 30 720 R^5 s^4 - 4632 R^3 s^6 + 263 R s^8)) / \\ (r^6 + 16 r^5 R - 128 r R^3 s^2 + 16 R^2 s^4 + s^6 + r^4 (96 R^2 - 5 s^2) + 16 r^3 (16 R^3 - 3 R s^2) + r^2 (256 R^4 - 144 R^2 s^2 - 5 s^4))^2$$

$$|X_{32}X_{86}|^2: \\ - \left((r^{14} + 28 r^{13} R + 12 r R s^{12} - s^{14} + r^2 s^{10} (92 R^2 - 21 s^2) - 8 r^3 R s^8 (40 R^2 - 19 s^2) + r^{12} (336 R^2 + 5 s^2) + 8 r^{11} (280 R^3 + 11 R s^2) + r^{10} (8960 R^4 + 668 R^2 s^2 - 71 s^4) + r^4 s^6 (-2176 R^4 + 192 R^2 s^2 + 119 s^4) + 4 r^9 (5376 R^5 + 752 R^3 s^2 - 203 R s^4) + r^8 (28 672 R^6 + 9088 R^4 s^2 - 3504 R^2 s^4 + 5 s^6) + 16 r^7 (1024 R^7 + 1088 R^5 s^2 - 448 R^3 s^4 - 39 R s^6) + 3 r^6 (5120 R^6 s^2 - 2048 R^4 s^4 - 904 R^2 s^6 + 73 s^8) + 4 r^5 (256 R^5 s^4 - 1040 R^3 s^6 + 97 R s^8)) \right) / \\ (r^6 + 12 r^5 R - 36 r R s^4 + 5 s^6 + r^4 (48 R^2 - s^2) + 8 r^3 R (8 R^2 + s^2) + r^2 (48 R^2 s^2 - 29 s^4))^2$$

$$|X_{32}X_{88}|^2: \\ - \left((r^2 R (81 r^{10} R - R s^{10} + 180 r^9 (9 R^2 - s^2) + 12 r s^8 (-R^2 + s^2) + 9 r^8 (1440 R^3 - 253 R s^2) + 16 r^7 (3240 R^4 - 801 R^2 s^2 + 73 s^4) + 2 r^6 (51 840 R^5 - 20 826 R^3 s^2 + 2213 R s^4) + 24 r^5 (3456 R^6 - 2940 R^4 s^2 + 193 R^2 s^4 - 29 s^6) + r^4 (-37 440 R^5 s^2 + 11 512 R^3 s^4 + 390 R s^6) + 16 r^3 (178 R^4 s^4 + 15 R^2 s^6 + s^8) + r^2 (396 R^3 s^6 - 251 R s^8)) \right) / \\ (3 r^6 + 9 r^5 R - 23 r R s^4 + s^6 - r^4 (72 R^2 + 17 s^2) + r^3 (-240 R^3 + 74 R s^2) + r^2 (136 R^2 s^2 - 3 s^4))^2$$

$$\begin{aligned}
& |X_{32}X_{89}|^2: \\
& - \left((r^2 R (81 r^{10} R - 12 r R^2 s^8 - R s^{10} + 36 r^9 (45 R^2 - 8 s^2) + 45 r^8 (288 R^3 - 89 R s^2) + \right. \\
& \quad 16 r^7 (3240 R^4 - 1449 R^2 s^2 + 106 s^4) + 10 r^6 (10368 R^5 - 6930 R^3 s^2 + 1033 R s^4) + 24 r^5 \\
& \quad (3456 R^6 - 4092 R^4 s^2 + 889 R^2 s^4 - 4 s^6) - 2 r^4 (18720 R^5 s^2 - 8828 R^3 s^4 + 141 R s^6) + \\
& \quad 16 r^3 (178 R^4 s^4 + 3 R^2 s^6 - 2 s^8) + r^2 (396 R^3 s^6 - 107 R s^8))) / \\
& \quad (6 r^6 + 45 r^5 R + 13 r R s^4 - 2 s^6 + r^4 (72 R^2 - 38 s^2) - 2 r^3 (24 R^3 + 23 R s^2) + \\
& \quad \left. r^2 (-8 R^2 s^2 + 18 s^4))^2 \right) \\
& |X_{32}X_{99}|^2: \quad (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} - \\
& \quad 3 r^2 s^{10} (-76 R^2 + s^2) + r^{12} (-336 R^2 + 3 s^2) + r^{11} (-2240 R^3 + 88 R s^2) - \\
& \quad r^4 s^6 (1408 R^4 + 64 R^2 s^2 + 15 s^4) + r^{10} (-8960 R^4 + 932 R^2 s^2 + 15 s^4) + \\
& \quad r^9 (-21504 R^5 + 4672 R^3 s^2 + 92 R s^4) + r^8 (-28672 R^6 + 11392 R^4 s^2 + 304 R^2 s^4 + 11 s^6) - \\
& \quad 16 r^7 (1024 R^7 - 704 R^5 s^2 - 140 R^3 s^4 + 3 R s^6) + \\
& \quad r^6 (1024 R^6 s^2 + 7680 R^4 s^4 - 1256 R^2 s^6 - 11 s^8) + \\
& \quad 4 r^5 (1536 R^5 s^4 - 784 R^3 s^6 + 23 R s^8) + r^3 (-512 R^3 s^8 + 88 R s^{10})) / \\
& \quad \left((r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2)) \right)^2 \\
& |X_{32}X_{141}|^2: \quad (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + r^2 s^{10} (228 R^2 + 5 s^2) - r^{12} (336 R^2 + 5 s^2) - \\
& \quad 8 r^3 R s^8 (64 R^2 + 9 s^2) - 8 r^{11} (280 R^3 + 9 R s^2) + r^{10} (-8960 R^4 - 348 R^2 s^2 + 119 s^4) - \\
& \quad 4 r^9 (5376 R^5 + 112 R^3 s^2 - 375 R s^4) + r^8 (-28672 R^6 + 1152 R^4 s^2 + 7024 R^2 s^4 - 389 s^6) - \\
& \quad 16 r^7 (1024 R^7 - 192 R^5 s^2 - 940 R^3 s^4 + 191 R s^6) + \\
& \quad r^6 (1024 R^6 s^2 + 14848 R^4 s^4 - 7784 R^2 s^6 + 389 s^8) + \\
& \quad 12 r^5 (512 R^5 s^4 - 560 R^3 s^6 + 125 R s^8) + r^4 (-1408 R^4 s^6 + 1024 R^2 s^8 - 119 s^{10})) / \\
& \quad \left(4 (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 - 7 s^2) + 8 r^3 (8 R^3 - 5 R s^2) + r^2 (-48 R^2 s^2 + 7 s^4))^2 \right) \\
& |X_{32}X_{142}|^2: \\
& - \left((r^{12} + 28 r^{11} R + 64 r R^3 s^8 - 4 R^2 s^{10} + r^{10} (336 R^2 + 5 s^2) + 8 r^9 (280 R^3 + 9 R s^2) + \right. \\
& \quad r^8 (8960 R^4 + 348 R^2 s^2 - 86 s^4) + r^2 s^6 (128 R^4 - 80 R^2 s^2 + s^4) + \\
& \quad 112 r^7 (192 R^5 + 4 R^3 s^2 - 9 R s^4) + 2 r^6 (14336 R^6 - 576 R^4 s^2 - 2112 R^2 s^4 + 69 s^6) + \\
& \quad 8 r^5 (2048 R^7 - 384 R^5 s^2 - 944 R^3 s^4 + 111 R s^6) - \\
& \quad \left. r^4 (1024 R^6 s^2 + 5632 R^4 s^4 - 1832 R^2 s^6 + 27 s^8) - 4 r^3 (512 R^5 s^4 - 304 R^3 s^6 + 27 R s^8)) \right) / \\
& \quad \left(4 (r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2)) \right)^2 \\
& |X_{32}X_{145}|^2: \quad (7 r^{10} + 76 r^9 R - 36 r R s^8 + s^{10} + r^8 (96 R^2 - 75 s^2) - 32 r^7 (52 R^3 + 9 R s^2) + \\
& \quad r^6 (-7424 R^4 + 1812 R^2 s^2 + 198 s^4) - 8 r^5 (1152 R^5 - 1140 R^3 s^2 + 89 R s^4) + \\
& \quad 2 r^4 (4128 R^4 s^2 - 1564 R^2 s^4 + 5 s^6) - 32 r^3 (89 R^3 s^4 - 12 R s^6) + 13 r^2 (36 R^2 s^6 - s^8)) / \\
& \quad (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2
\end{aligned}$$

$|X_{32}X_{190}|^2:$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 44 r R s^{12} + s^{14} - 8 r^3 R s^8 (760 R^2 - 53 s^2) + r^2 s^{10} (740 R^2 - 11 s^2) + \\ & r^{12} (-336 R^2 + 27 s^2) - 56 r^{11} (40 R^3 - 11 R s^2) + r^{10} (-8960 R^4 + 5732 R^2 s^2 - 89 s^4) + \\ & r^4 s^6 (25728 R^4 - 5632 R^2 s^2 + 41 s^4) - 4 r^9 (5376 R^5 - 6928 R^3 s^2 + 573 R s^4) - \\ & r^8 (28672 R^6 - 72832 R^4 s^2 + 17936 R^2 s^4 + 197 s^6) - \\ & 16 r^7 (1024 R^7 - 6080 R^5 s^2 + 3728 R^3 s^4 - 199 R s^6) + \\ & r^6 (50176 R^6 s^2 - 89088 R^4 s^4 + 15704 R^2 s^6 - 27 s^8) - \\ & 4 r^5 (13568 R^5 s^4 - 8336 R^3 s^6 + 401 R s^8)) / (3 r^6 + 36 r^5 R + 20 r R s^4 - \\ & s^6 + r^4 (144 R^2 - 19 s^2) + 8 r^3 (24 R^3 - 13 R s^2) + r^2 (-112 R^2 s^2 + 9 s^4))^2 \end{aligned}$$

 $|X_{32}X_{192}|^2:$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 44 r R s^{12} + s^{14} - 8 r^3 R s^8 (760 R^2 - 81 s^2) + r^2 s^{10} (740 R^2 - 19 s^2) + \\ & r^{12} (-336 R^2 + 19 s^2) - 8 r^{11} (280 R^3 - 57 R s^2) + r^{10} (-8960 R^4 + 4452 R^2 s^2 - 65 s^4) + \\ & r^4 s^6 (25728 R^4 - 7360 R^2 s^2 + 65 s^4) - 4 r^9 (5376 R^5 - 5648 R^3 s^2 + 445 R s^4) - \\ & r^8 (28672 R^6 - 62592 R^4 s^2 + 14800 R^2 s^4 + 85 s^6) - \\ & 16 r^7 (1024 R^7 - 5568 R^5 s^2 + 3312 R^3 s^4 - 179 R s^6) + \\ & r^6 (50176 R^6 s^2 - 86016 R^4 s^4 + 17368 R^2 s^6 + 85 s^8) - \\ & 4 r^5 (13568 R^5 s^4 - 9232 R^3 s^6 + 593 R s^8)) / \\ & (r^6 + 12 r^5 R - 4 r R s^4 + s^6 + r^4 (48 R^2 - 5 s^2) + 8 r^3 (8 R^3 - 3 R s^2) - r^2 (16 R^2 s^2 + 5 s^4))^2 \end{aligned}$$

 $|X_{32}X_{194}|^2:$

$$\begin{aligned} & (-r^{18} - 36 r^{17} R - 36 r R s^{16} + s^{18} + r^2 s^{14} (468 R^2 - 17 s^2) - 32 r^3 R s^{12} (87 R^2 - 16 s^2) + \\ & r^{16} (-576 R^2 + 17 s^2) - 256 r^{15} (21 R^3 - 2 R s^2) + 16 r^5 R s^8 (576 R^4 + 486 R^2 s^2 - 67 s^4) - \\ & 4 r^{14} (8064 R^4 - 1653 R^2 s^2 + 7 s^4) + 4 r^4 s^{10} (1584 R^4 - 1058 R^2 s^2 + 7 s^4) - \\ & 16 r^{13} (8064 R^5 - 2974 R^3 s^2 + 67 R s^4) + 64 r^7 R s^4 (1152 R^6 - 3088 R^4 s^2 + 885 R^2 s^4 - 20 s^6) + \\ & 4 r^6 s^6 (-17664 R^6 + 11840 R^4 s^2 - 101 R^2 s^4 + 49 s^6) - \\ & 4 r^{12} (86016 R^6 - 51760 R^4 s^2 + 3202 R^2 s^4 + 49 s^6) - \\ & 32 r^{11} (18432 R^7 - 17184 R^5 s^2 + 2155 R^3 s^4 + 40 R s^6) - \\ & 2 r^{10} (294912 R^8 - 423424 R^6 s^2 + 87680 R^4 s^4 + 2762 R^2 s^6 + 75 s^8) + \\ & 2 r^8 s^2 (73728 R^8 + 19456 R^6 s^2 - 80320 R^4 s^4 + 9384 R^2 s^6 + 75 s^8) - \\ & 8 r^9 (32768 R^9 - 80896 R^7 s^2 + 20864 R^5 s^4 + 5384 R^3 s^6 - 85 R s^8)) / \\ & (r^8 + 16 r^7 R - 16 r R s^6 + s^8 + r^6 (96 R^2 - 4 s^2) + 16 r^5 (16 R^3 - 3 R s^2) + \\ & 2 r^4 (128 R^4 - 96 R^2 s^2 - 5 s^4) + r^3 (-256 R^3 s^2 + 48 R s^4) + r^2 (96 R^2 s^4 - 4 s^6))^2 \end{aligned}$$

 $|X_{32}X_{200}|^2:$

$$\begin{aligned} & - \left((4 R (r^{10} R + 28 r R^2 s^8 - R s^{10} + r^9 (20 R^2 - s^2) + 16 r^8 (10 R^3 - R s^2) + \right. \\ & r^7 (640 R^4 - 148 R^2 s^2 + 9 s^4) + 2 r^6 (640 R^5 - 386 R^3 s^2 + 25 R s^4) + \\ & r^5 (1024 R^6 - 1888 R^4 s^2 + 256 R^2 s^4 - 19 s^6) + r^4 (-1600 R^5 s^2 + 888 R^3 s^4 - 9 R s^6) + \\ & r^3 (928 R^4 s^4 - 140 R^2 s^6 + 3 s^8) + r^2 (-244 R^3 s^6 + 3 R s^8))) / \\ & \left. \left((r - 2 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right) \right) \end{aligned}$$

 $|X_{32}X_{210}|^2:$

$$\begin{aligned} & (-r^{10} R + 4 R s^{10} + 2 r s^8 (-52 R^2 + s^2) + r^9 (-20 R^2 + 2 s^2) - \\ & 4 r^8 (40 R^3 - 9 R s^2) - 4 r^7 (160 R^4 - 77 R^2 s^2 + 6 s^4) - 2 r^6 (640 R^5 - 706 R^3 s^2 + 101 R s^4) - \\ & 4 r^5 (256 R^6 - 792 R^4 s^2 + 233 R^2 s^4 - 19 s^6) + 8 r^4 (328 R^5 s^2 - 307 R^3 s^4 + 20 R s^6) - \\ & 4 r^3 (568 R^4 s^4 - 155 R^2 s^6 + 6 s^8) + r^2 (772 R^3 s^6 - 45 R s^8)) / \\ & \left(9 R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 3 s^2))^2 \right) \end{aligned}$$

$$|X_{32}X_{213}|^2:$$

$$\begin{aligned} & - \left((16 r^4 R^2 s^4 (r^8 + 20 r^7 R - 4 R^2 s^6 + s^8 + 4 r^6 (40 R^2 + s^2) + 4 r^5 (160 R^3 + 3 R s^2) + \right. \\ & \quad 4 r^2 s^2 (-144 R^4 + 38 R^2 s^2 + s^4) + 2 r^4 (640 R^4 - 66 R^2 s^2 + 3 s^4) + \\ & \quad 4 r^3 (256 R^5 - 152 R^3 s^2 + 23 R s^4) + 4 r (24 R^3 s^4 - 7 R s^6)) / \\ & \quad (r^8 + 16 r^7 R + 12 r R s^6 - s^8 + r^6 (96 R^2 - 6 s^2) + 4 r^5 (64 R^3 - 13 R s^2) + \\ & \quad \left. 128 r^4 (2 R^4 - R^2 s^2) - 8 r^3 (8 R^3 s^2 + 3 R s^4) + r^2 (-32 R^2 s^4 + 6 s^6)) \right)^2 \end{aligned}$$

$$|X_{32}X_{238}|^2:$$

$$\begin{aligned} & - \left((4 r^2 R (r^{11} + 24 r^{10} R - R s^{10} + 3 r^9 (80 R^2 - s^2) + r s^8 (16 R^2 + s^2) + r^8 (1280 R^3 - 49 R s^2) + \right. \\ & \quad 2 r^7 (1920 R^4 - 152 R^2 s^2 - 7 s^4) + 12 r^6 (512 R^5 - 72 R^3 s^2 - 11 R s^4) + \\ & \quad 2 r^5 (2048 R^6 - 512 R^4 s^2 - 208 R^2 s^4 - 7 s^6) - 2 r^4 (128 R^5 s^2 + 288 R^3 s^4 - 85 R s^6) + \\ & \quad r^3 (-512 R^4 s^4 + 144 R^2 s^6 - 3 s^8) + 4 r^2 (8 R^3 s^6 - 7 R s^8)) / \\ & \quad (3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 - 19 s^2) + 8 r^3 (24 R^3 - 13 R s^2) + \\ & \quad \left. r^2 (-112 R^2 s^2 + 9 s^4)) \right)^2 \end{aligned}$$

$$|X_{32}X_{239}|^2:$$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} - 8 r^3 R s^8 (168 R^2 - 41 s^2) + r^2 s^{10} (260 R^2 - 11 s^2) - \\ & \quad 56 r^{11} R (40 R^2 + s^2) - r^{12} (336 R^2 + 5 s^2) + r^4 s^6 (4736 R^4 - 2336 R^2 s^2 + 9 s^4) + \\ & \quad r^{10} (-8960 R^4 - 28 R^2 s^2 + 39 s^4) - 4 r^9 (5376 R^5 - 528 R^3 s^2 - 71 R s^4) + \\ & \quad r^8 (-28672 R^6 + 11392 R^4 s^2 - 368 R^2 s^4 + 123 s^6) - \\ & \quad 16 r^7 (1024 R^7 - 1472 R^5 s^2 + 456 R^3 s^4 - 63 R s^6) + \\ & \quad r^6 (17408 R^6 s^2 - 17920 R^4 s^4 + 3896 R^2 s^6 + 101 s^8) - \\ & \quad 4 r^5 (2816 R^5 s^4 - 2128 R^3 s^6 + 249 R s^8)) / (3 r^6 + 36 r^5 R + 20 r R s^4 - \\ & \quad s^6 + r^4 (144 R^2 - 19 s^2) + 8 r^3 (24 R^3 - 13 R s^2) + r^2 (-112 R^2 s^2 + 9 s^4)) \end{aligned}$$

$$|X_{32}X_{244}|^2:$$

$$\begin{aligned} & - \left((4 r^4 R (4 r^9 + 105 r^8 R + 4 r^7 (285 R^2 - 16 s^2) + 25 R s^6 (-4 R^2 + s^2) + r^6 (6560 R^3 - 988 R s^2) + \right. \\ & \quad 12 r^5 (1760 R^4 - 515 R^2 s^2 + 22 s^4) + 2 r^4 (18048 R^5 - 9650 R^3 s^2 + 883 R s^4) + \\ & \quad 4 r^3 (6400 R^6 - 7192 R^4 s^2 + 1207 R^2 s^4 - 40 s^6) - \\ & \quad 4 r^2 (3600 R^5 s^2 - 1814 R^3 s^4 + 111 R s^6) + 20 r (120 R^4 s^4 - 39 R^2 s^6 + s^8)) / \\ & \quad (r^6 - 6 r^5 R - 22 r R s^4 + s^6 - r^4 (96 R^2 + 5 s^2) - 28 r^3 (8 R^3 - 3 R s^2) + r^2 (128 R^2 s^2 - 5 s^4)) \end{aligned}$$

$$|X_{32}X_{304}|^2:$$

$$\begin{aligned} & (-r^{18} - 36 r^{17} R - 36 r R s^{16} + s^{18} + r^2 s^{14} (468 R^2 - 5 s^2) - 208 r^3 R s^{12} (14 R^2 - s^2) + \\ & \quad r^{16} (-576 R^2 + 5 s^2) + r^{15} (-5376 R^3 + 176 R s^2) - 8 r^4 s^{10} (-1272 R^4 + 315 R^2 s^2 + s^4) + \\ & \quad r^{14} (-32256 R^4 + 2580 R^2 s^2 + 8 s^4) - 16 r^5 R s^8 (1728 R^4 - 974 R^2 s^2 + 35 s^4) - 16 r^{13} \\ & \quad (8064 R^5 - 1294 R^3 s^2 + 11 R s^4) - 16 r^7 R s^4 (7680 R^6 - 11968 R^4 s^2 + 3812 R^2 s^4 - 153 s^6) - \\ & \quad 8 r^{12} (43008 R^6 - 12440 R^4 s^2 + 603 R^2 s^4 + 2 s^6) + \\ & \quad 4 r^6 s^6 (18176 R^6 - 16576 R^4 s^2 + 2299 R^2 s^4 + 4 s^6) - \\ & \quad 16 r^{11} (36864 R^7 - 18240 R^5 s^2 + 2454 R^3 s^4 - 79 R s^6) + \\ & \quad 2 r^8 s^2 (73728 R^8 - 154624 R^6 s^2 + 93632 R^4 s^4 - 11912 R^2 s^6 + 9 s^8) - \\ & \quad 2 r^{10} (294912 R^8 - 251392 R^6 s^2 + 76672 R^4 s^4 - 8726 R^2 s^6 + 9 s^8) - \\ & \quad 8 r^9 (32768 R^9 - 56320 R^7 s^2 + 38784 R^5 s^4 - 10568 R^3 s^6 + 411 R s^8)) / \\ & \quad (r^8 + 16 r^7 R - 48 r^3 R s^4 + 16 r R s^6 - s^8 + r^6 (96 R^2 - 6 s^2) + \\ & \quad 16 r^5 (16 R^3 - 3 R s^2) + 32 r^4 (8 R^4 - 3 R^2 s^2) + r^2 (-64 R^2 s^4 + 6 s^6)) \end{aligned}$$

$|X_{32}X_{306}|^2$:

$$\begin{aligned} & - \left((r^{14} + 24 r^{13} R + 32 r R s^{12} - s^{14} + 8 r^3 R s^8 (196 R^2 - 15 s^2) + r^2 s^{10} (-344 R^2 + 3 s^2) + \right. \\ & \quad r^{12} (244 R^2 + 13 s^2) + 40 r^{11} (34 R^3 + 5 R s^2) + 7 r^{10} (640 R^4 + 184 R^2 s^2 - 25 s^4) + \\ & \quad r^4 s^6 (-2448 R^4 + 676 R^2 s^2 + 63 s^4) + 16 r^9 (544 R^5 + 285 R^3 s^2 - 113 R s^4) + \\ & \quad r^8 (9216 R^6 + 9584 R^4 s^2 - 7160 R^2 s^4 + 437 s^6) + \\ & \quad 16 r^7 (256 R^7 + 712 R^5 s^2 - 835 R^3 s^4 + 163 R s^6) + \\ & \quad \left. r^6 (5888 R^6 s^2 - 10912 R^4 s^4 + 4592 R^2 s^6 - 341 s^8) - 8 r^5 (272 R^5 s^4 - 110 R^3 s^6 + 85 R s^8) \right) / \\ & (3 r^6 + 30 r^5 R + 14 r R s^4 - s^6 + r^4 (96 R^2 - 19 s^2) + \\ & \quad r^3 (96 R^3 - 68 R s^2) + r^2 (-64 R^2 s^2 + 9 s^4))^2 \end{aligned}$$

$|X_{32}X_{312}|^2$:

$$\begin{aligned} & (-r^{14} - 20 r^{13} R - 36 r R s^{12} + s^{14} - 8 r^3 R s^8 (356 R^2 - 17 s^2) + r^{12} (-160 R^2 + 3 s^2) - 8 r^{11} \\ & \quad (80 R^3 - 17 R s^2) + r^4 s^6 (8256 R^4 - 1456 R^2 s^2 - 15 s^4) + r^{10} (-1280 R^4 + 1332 R^2 s^2 + 15 s^4) - \\ & \quad 4 r^9 (256 R^5 - 1320 R^3 s^2 + 159 R s^4) + r^8 (9280 R^4 s^2 - 4112 R^2 s^4 + 11 s^6) + \\ & \quad 48 r^7 (128 R^5 s^2 - 162 R^3 s^4 + 21 R s^6) + r^6 (-9856 R^4 s^4 + 1688 R^2 s^6 - 11 s^8) + \\ & \quad r^5 (-9216 R^5 s^4 + 5984 R^3 s^6 - 76 R s^8) + r^2 (468 R^2 s^{10} - 3 s^{12})) / \\ & (r^6 - 16 r R s^4 + s^6 - r^4 (48 R^2 + 5 s^2) - 16 r^3 (8 R^3 - 3 R s^2) + r^2 (80 R^2 s^2 - 5 s^4))^2 \end{aligned}$$

$|X_{32}X_{319}|^2$:

$$\begin{aligned} & - \left((r^{14} + 28 r^{13} R + 252 r R s^{12} - 9 s^{14} + 24 r^3 R s^8 (296 R^2 - 23 s^2) + 3 r^2 s^{10} (-716 R^2 + s^2) + \right. \\ & \quad r^{12} (336 R^2 + 5 s^2) + 8 r^{11} (280 R^3 + 11 R s^2) + r^{10} (8960 R^4 + 668 R^2 s^2 - 207 s^4) + \\ & \quad r^4 s^6 (-5248 R^4 + 1152 R^2 s^2 + 615 s^4) + 4 r^9 (5376 R^5 + 752 R^3 s^2 - 719 R s^4) + \\ & \quad r^8 (28672 R^6 + 9088 R^4 s^2 - 15472 R^2 s^4 + 1181 s^6) + \\ & \quad 16 r^7 (1024 R^7 + 1088 R^5 s^2 - 2480 R^3 s^4 + 589 R s^6) + \\ & \quad r^6 (15360 R^6 s^2 - 46080 R^4 s^4 + 23336 R^2 s^6 - 2101 s^8) - \\ & \quad \left. 4 r^5 (3840 R^5 s^4 - 3440 R^3 s^6 + 1207 R s^8) \right) / (r^6 + 12 r^5 R + 28 r R s^4 - \\ & \quad 3 s^6 + r^4 (48 R^2 - 9 s^2) + 8 r^3 (8 R^3 - 7 R s^2) + r^2 (-80 R^2 s^2 + 19 s^4))^2 \end{aligned}$$

$|X_{32}X_{320}|^2$:

$$\begin{aligned} & (-9 r^{14} - 252 r^{13} R - 28 r R s^{12} + s^{14} + 8 r^3 R s^8 (40 R^2 - 19 s^2) + r^{12} (-3024 R^2 + 3 s^2) + \\ & \quad r^2 s^{10} (196 R^2 + 5 s^2) - 360 r^{11} (56 R^3 - R s^2) + \\ & \quad r^{10} (-80640 R^4 + 5508 R^2 s^2 + 615 s^4) + r^9 (-193536 R^5 + 34368 R^3 s^2 + 6236 R s^4) + \\ & \quad r^8 (-258048 R^6 + 102528 R^4 s^2 + 21296 R^2 s^4 - 2101 s^6) - \\ & \quad 16 r^7 (9216 R^7 - 8640 R^5 s^2 - 1824 R^3 s^4 + 701 R s^6) + \\ & \quad r^6 (58368 R^6 s^2 + 20480 R^4 s^4 - 22440 R^2 s^6 + 1181 s^8) + \\ & \quad 4 r^5 (2816 R^5 s^4 - 4720 R^3 s^6 + 879 R s^8) + r^4 (-7040 R^4 s^6 + 2880 R^2 s^8 - 207 s^{10})) / \\ & (3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 - 19 s^2) + \\ & \quad 8 r^3 (24 R^3 - 13 R s^2) + r^2 (-112 R^2 s^2 + 9 s^4))^2 \end{aligned}$$

$$|X_{32}X_{321}|^2:$$

$$\begin{aligned} & (-r^{14} - 24 r^{13} R - 32 r R s^{12} + s^{14} - 8 r^3 R s^8 (252 R^2 - 19 s^2) + r^{12} (-244 R^2 + 3 s^2) - 40 r^{11} \\ & (34 R^3 - 3 R s^2) + r^4 s^6 (6288 R^4 - 1588 R^2 s^2 - 15 s^4) + r^{10} (-4480 R^4 + 1336 R^2 s^2 + 15 s^4) - \\ & 16 r^9 (544 R^5 - 419 R^3 s^2 + 25 R s^4) + r^8 (-9216 R^6 + 17040 R^4 s^2 - 4024 R^2 s^4 + 11 s^6) - \\ & 16 r^7 (256 R^7 - 1336 R^5 s^2 + 793 R^3 s^4 - 63 R s^6) + \\ & r^6 (10496 R^6 s^2 - 18016 R^4 s^4 + 3712 R^2 s^6 - 11 s^8) - \\ & 24 r^5 (464 R^5 s^4 - 310 R^3 s^6 + 13 R s^8) + r^2 (360 R^2 s^{10} - 3 s^{12})) / \\ & (r^6 + 6 r^5 R - 5 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 (8 R^3 - 3 R s^2) + r^2 (32 R^2 s^2 - 5 s^4))^2 \end{aligned}$$

$$|X_{32}X_{345}|^2:$$

$$\begin{aligned} & (-r^{14} - 20 r^{13} R - 36 r R s^{12} + s^{14} - 8 r^3 R s^8 (356 R^2 - 31 s^2) + r^2 s^{10} (468 R^2 - 7 s^2) - \\ & 5 r^{12} (32 R^2 + 5 s^2) - 40 r^{11} (16 R^3 + 9 R s^2) + r^4 s^6 (8256 R^4 - 2368 R^2 s^2 - 27 s^4) + \\ & r^{10} (-1280 R^4 - 2124 R^2 s^2 + 251 s^4) - 4 r^9 (256 R^5 + 1624 R^3 s^2 - 521 R s^4) + \\ & r^8 (-10176 R^4 s^2 + 5728 R^2 s^4 - 461 s^6) - 16 r^7 (384 R^5 s^2 - 242 R^3 s^4 + 121 R s^6) + \\ & r^6 (-7040 R^4 s^4 - 8 R^2 s^6 + 269 s^8) + r^5 (-9216 R^5 s^4 + 8160 R^3 s^6 + 20 R s^8)) / \\ & (5 r^6 + 48 r^5 R + 16 r R s^4 - s^6 + r^4 (144 R^2 - 31 s^2) + \\ & 32 r^3 (4 R^3 - 3 R s^2) + r^2 (-80 R^2 s^2 + 11 s^4))^2 \end{aligned}$$

$$|X_{32}X_{346}|^2:$$

$$\begin{aligned} & (s^4 (15 r^{10} + 140 r^9 R - 36 r R s^8 + s^{10} + r^8 (160 R^2 - 107 s^2) - 32 r^7 (68 R^3 + 11 R s^2) - \\ & 8 r^5 R (1152 R^4 - 884 R^2 s^2 + s^4) + r^6 (-8448 R^4 + 788 R^2 s^2 + 118 s^4) + \\ & 2 r^4 (4128 R^4 s^2 - 956 R^2 s^4 - 11 s^6) - 32 r^3 (89 R^3 s^4 - 6 R s^6) + r^2 (468 R^2 s^6 - 5 s^8)) / \\ & (2 r^6 + 24 r^5 R + 16 r R s^4 - s^6 + r^4 (96 R^2 - 13 s^2) + 8 r^3 (16 R^3 - 9 R s^2) + r^2 (-80 R^2 s^2 + 8 s^4))^2 \end{aligned}$$

$$|X_{32}X_{350}|^2:$$

$$\begin{aligned} & (-r^{18} - 36 r^{17} R - 36 r R s^{16} + s^{18} + r^{16} (-576 R^2 + s^2) - r^2 s^{14} (-436 R^2 + s^2) + \\ & 16 r^3 R s^{12} (-114 R^2 + s^2) + r^{15} (-5376 R^3 + 80 R s^2) - 4 r^{14} (8064 R^4 - 421 R^2 s^2 - 5 s^4) - \\ & 4 r^4 s^{10} (656 R^4 - 198 R^2 s^2 + 5 s^4) + 16 r^5 R s^8 (2368 R^4 - 810 R^2 s^2 + 31 s^4) - \\ & 16 r^{13} (8064 R^5 - 1070 R^3 s^2 - 15 R s^4) - 16 r^7 R s^4 (8704 R^6 + 3776 R^4 s^2 - 2316 R^2 s^4 - 51 s^6) - \\ & 4 r^6 s^6 (14592 R^6 - 15552 R^4 s^2 + 1925 R^2 s^4 + 11 s^6) + \\ & r^{12} (-344064 R^6 + 99520 R^4 s^2 + 24 R^2 s^4 + 44 s^6) - \\ & 16 r^{11} (36864 R^7 - 21824 R^5 s^2 + 810 R^3 s^4 - 7 R s^6) + \\ & r^{10} (-589824 R^8 + 732160 R^6 s^2 - 83200 R^4 s^4 - 2996 R^2 s^6 + 26 s^8) - \\ & 8 r^9 (32768 R^9 - 105472 R^7 s^2 + 28800 R^5 s^4 + 2504 R^3 s^6 - 45 R s^8) + \\ & r^8 (409600 R^8 s^2 - 296960 R^6 s^4 - 47744 R^4 s^6 + 7568 R^2 s^8 - 26 s^{10})) / \\ & (r^8 + 16 r^7 R - 24 r R s^6 + s^8 + r^6 (96 R^2 - 4 s^2) + 8 r^5 (32 R^3 - 7 R s^2) + \\ & 2 r^4 (128 R^4 - 128 R^2 s^2 - 5 s^4) - 96 r^3 (4 R^3 s^2 - R s^4) + 4 r^2 (40 R^2 s^4 - s^6))^2 \end{aligned}$$

$$|X_{35}X_{36}|^2:$$

$$-\frac{16 r^2 R^3}{(2 r - R) (2 r + R)^2}$$

$$|X_{35}X_{37}|^2:$$

$$-\frac{4 r^2 R (-R^3 s^2 + r^3 (R^2 - 4 s^2) + 4 r^2 (2 R^3 - 3 R s^2) + r (16 R^4 - 21 R^2 s^2 + 4 s^4))}{(2 r + R)^2 (r^2 + 4 r R + s^2)^2}$$

$$|X_{35}X_{38}|^2:$$

$$-\frac{4 r^2 R (12 r^5 + 92 r^4 R - R^3 s^2 + 2 r^3 (101 R^2 - 8 s^2) + r^2 (99 R^3 - 52 R s^2) + 2 r (8 R^4 - 7 R^2 s^2 + 2 s^4))}{(2 r + R)^2 (r^2 - 2 r R + s^2)^2}$$

$$|X_{35}X_{39}|^2:$$

$$\begin{aligned} & - \left((4 r^2 R^2 (r^7 R - s^6 (R^2 + 2 s^2) + 2 r^6 (8 R^2 + 9 s^2) + 3 r^5 (32 R^3 + 57 R s^2) + \right. \\ & r^4 (256 R^4 + 495 R^2 s^2 - 30 s^4) + r^3 (256 R^5 + 360 R^3 s^2 - 173 R s^4) - \\ & 2 r^2 (72 R^4 s^2 + 121 R^2 s^4 - 7 s^6) + r (24 R^3 s^4 + 41 R s^6)) / \\ & \left. ((2 r + R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \right) \end{aligned}$$

$$\begin{aligned}
|X_{35}X_{40}|^2 &= -\frac{4(2r-R)R(r+R)^2}{(2r+R)^2} \\
|X_{35}X_{41}|^2 &= -\frac{4r^2R^2(r^5R-16R^4s^2-5R^2s^4+8r^4(2R^2+s^2)+r^3(96R^3+68Rs^2)+r^2(256R^4+159R^2s^2-8s^4)+r(256R^5+56R^3s^2-13Rs^4))}{(2r+R)^2(r^3+8r^2R+16rR^2-3rs^2-2Rs^2)^2} \\
|X_{35}X_{42}|^2 &= -\frac{4r^2R^2(2r^4+16r^3R+16rR(R^2+s^2)-s^2(R^2+2s^2)+r^2(27R^2+16s^2))}{(2r+R)^2(r^2-2rR+s^2)^2} \\
|X_{35}X_{43}|^2 &= \frac{4r^2R(2r^5+27r^4R+4R^3s^2+3Rs^4+4r^3(21R^2+s^2)+r^2(52R^3-34Rs^2)+r(-64R^4-44R^2s^2+2s^4))}{(2r+R)^2(r^2-8rR+s^2)^2} \\
|X_{35}X_{44}|^2 &= -\frac{4r^2R(-9R^3s^2-4Rs^4+3r^3(3R^2-4s^2)+24r^2(3R^3+2Rs^2)+r(144R^4+51R^2s^2-4s^4))}{(2r+R)^2(-3r^2-12rR+s^2)^2} \\
|X_{35}X_{45}|^2 &= -\frac{4r^2R(-9R^3s^2+2Rs^4+3r^3(3R^2-8s^2)+6r^2(12R^3-5Rs^2)+r(144R^4-69R^2s^2+8s^4))}{(2r+R)^2(3r^2+12rR+s^2)^2} \\
|X_{35}X_{46}|^2 &= -\frac{4r^2(2r-R)R(r+2R)^2}{(-2r^2+rR+R^2)^2} \\
|X_{35}X_{55}|^2 &= \frac{r^2R^3(-2r+R)}{(2r^2+3rR+R^2)^2} \\
|X_{35}X_{56}|^2 &= -\frac{9r^2(2r-R)R^3}{(-2r^2+rR+R^2)^2} \\
|X_{35}X_{57}|^2 &= -\frac{4r^2(2r-R)R(r+3R)^2}{(-2r^2+3rR+2R^2)^2} \\
|X_{35}X_{58}|^2 &= -\frac{4r^2R^2(2r^4+16r^3R+16rR(R^2+s^2)-s^2(R^2+2s^2)+r^2(27R^2+16s^2))}{(2r+R)^2(-3r^2-4rR+s^2)^2} \\
|X_{35}X_{63}|^2 &= \frac{R(-4r^5-30r^4R+R^3s^2+4rR^2(-4R^2+s^2)+r^3(-72R^2+4s^2)+r^2(-59R^3+6Rs^2))}{(2r^2+3rR+R^2)^2} \\
|X_{35}X_{65}|^2 &= -\frac{r^2(2r-R)(2r+3R)^2}{R(2r+R)^2} \\
|X_{35}X_{69}|^2 &= \frac{2r^7R-17r^2R^2s^4+R^2s^6+r^6(25R^2-32s^2)+2rRs^4(-8R^2+s^2)+2r^5(52R^3-81Rs^2)+r^4(144R^4-329R^2s^2+32s^4)+r^3(-184R^3s^2+30Rs^4)}{(2r+R)^2(r^2+4rR-s^2)^2} \\
|X_{35}X_{72}|^2 &= \frac{-4r^5-24r^4R+R^3s^2+r^3(-51R^2+4s^2)+r^2(-44R^3+4Rs^2)+r(-16R^4+3R^2s^2)}{R(2r+R)^2} \\
|X_{35}X_{75}|^2 &= \frac{R(2r^7+25r^6R-37r^2Rs^4+R^3s^6+2r^5(-8R^2+s^2)+2r^4(52R^2+51s^2)+r^4(144R^3+307Rs^2)+2r^3(92R^2s^2-13s^4))}{(2r+R)^2(r^2+4rR+s^2)^2} \\
|X_{35}X_{76}|^2 &= \frac{(R(2r^{11}+41r^{10}R+Rs^{10}+2rs^8(-12R^2+s^2)+2r^9(168R^2+5s^2)+43r^8(32R^3-Rs^2)+4r^7(704R^4-258R^2s^2+5s^4)+r^6(2304R^5-3632R^3s^2+778Rs^4)-4r^5(832R^4s^2-442R^2s^4-5s^6)+2r^4(512R^3s^4-99Rs^6)+r^3(-256R^4s^4+40R^2s^6+10s^8)+r^2(144R^3s^6-35Rs^8)))}{((2r+R)^2(r^4+8r^3R-8rR^2+s^4+2r^2(8R^2+s^2))^2)} \\
|X_{35}X_{78}|^2 &= \frac{R(-4r^5-18r^4R+R^3s^2+2rR^2(-8R^2+s^2)+r^3(-34R^2+4s^2)+r^2(-27R^3+2Rs^2))}{(-2r^2+rR+R^2)^2} \\
|X_{35}X_{79}|^2 &= \frac{4r^2(4r^4+32r^3R+36R^4-5R^2s^2+3r^2(29R^2-4s^2)+4r(23R^3-4Rs^2))}{(4r^2+8rR+3R^2)^2} \\
|X_{35}X_{80}|^2 &= \frac{4r^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(2r-R)(2r+R)^2} \\
|X_{35}X_{81}|^2 &= -\frac{r^2R(4r^5+30r^4R+8r^3(9R^2+s^2)-R^2(R^2+6s^2)+r^2(59R^3+40Rs^2)+4r(4R^4+6R^2s^2+s^4))}{(2r+R)^2(r^2+rR-s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{35}X_{83}|^2 &: \frac{(16 r^{12} + 346 r^{11} R + R^2 s^{10} - 2 r R s^8 (20 R^2 + 3 s^2) + r^{10} (3089 R^2 + 48 s^2) + 2 r^9 (7240 R^3 + 161 R s^2) + r^2 s^6 (592 R^4 + 277 R^2 s^2 - 16 s^4) + r^8 (36960 R^4 - 1275 R^2 s^2 + 32 s^4) + 4 r^7 (11456 R^5 - 3854 R^3 s^2 - 23 R s^4) + 2 r^6 (6272 R^6 - 20152 R^4 s^2 + 1013 R^2 s^4 - 16 s^6) - 4 r^5 (4096 R^7 + 6528 R^5 s^2 - 3534 R^3 s^4 - 57 R s^6) + 2 r^4 (6656 R^6 s^2 + 7104 R^4 s^4 - 1275 R^2 s^6 - 24 s^8) + r^3 (-4096 R^5 s^4 - 3112 R^3 s^6 + 290 R s^8))}{((2 r + R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2)} \\
|X_{35}X_{85}|^2 &: \frac{1}{(2 r + R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2} \\
&R (2 r^7 + 41 r^6 R + R s^6 + r^5 (336 R^2 + 38 s^2) + r^4 (1376 R^3 + 339 R s^2) + r^3 (2816 R^4 + 888 R^2 s^2 - 90 s^4) + r^2 (2304 R^5 + 560 R^3 s^2 - 149 R s^4) + r (-56 R^2 s^4 + 2 s^6)) \\
|X_{35}X_{86}|^2 &: \frac{1}{(2 r + R)^2 (r^2 + 4 r R + 5 s^2)^2} \\
&(2 r^7 R + R^2 s^6 + r^6 (25 R^2 - 16 s^2) + 2 r^5 (52 R^3 - R s^2) + r^4 (144 R^4 + 195 R^2 s^2 - 32 s^4) + 2 r^3 (188 R^3 s^2 - 5 R s^4) + r^2 (171 R^2 s^4 - 16 s^6) - 2 r (8 R^3 s^4 + 3 R s^6)) \\
|X_{35}X_{88}|^2 &: - \frac{r^2 R (108 r^5 + 378 r^4 R - 9 R^3 s^2 - 10 R s^4 - 12 r^3 (51 R^2 + 2 s^2) + r^2 (-2277 R^3 + 96 R s^2) + 4 r (36 R^4 + 75 R^2 s^2 - s^4))}{(2 r + R)^2 (3 r^2 - 15 r R + s^2)^2} \\
|X_{35}X_{89}|^2 &: - \frac{r^2 R (216 r^5 + 1404 r^4 R - 9 R^3 s^2 - 28 R s^4 + 6 r^3 (429 R^2 + 16 s^2) + r^2 (963 R^3 + 336 R s^2) + 2 r (72 R^4 - 33 R^2 s^2 + 4 s^4))}{(-12 r^3 + 3 r R^2 + 4 r s^2 + 2 R s^2)^2} \\
|X_{35}X_{99}|^2 &: \frac{R (2 r^7 + 25 r^6 R - 21 r^2 R s^4 + R s^6 + 2 r s^4 (-8 R^2 + s^2) + 2 r^5 (52 R^2 + 3 s^2) + r^4 (144 R^3 - 61 R s^2) + r^3 (-40 R^2 s^2 + 6 s^4))}{(2 r + R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))} \\
|X_{35}X_{141}|^2 &: \frac{1}{4 (2 r + R)^2 (r^2 + 4 r R - s^2)^2} \\
&(4 r^8 + 56 r^7 R - 20 r R^3 s^4 + R^2 s^6 + r^6 (291 R^2 - 28 s^2) + 12 r^5 (55 R^3 - 16 R s^2) + r^4 (528 R^4 - 425 R^2 s^2 + 28 s^4) - 8 r^3 (8 R^5 + 32 R^3 s^2 - 9 R s^4) + r^2 (68 R^4 s^2 + 21 R^2 s^4 - 4 s^6)) \\
|X_{35}X_{142}|^2 &: \frac{4 r^6 + 56 r^5 R + 4 R^4 s^2 + 3 r^4 (97 R^2 - 4 s^2) - 16 r R^3 (4 R^2 + s^2) + r^3 (660 R^3 - 56 R s^2) + r^2 (528 R^4 - 73 R^2 s^2)}{4 (2 r^2 + 9 r R + 4 R^2)^2} \\
|X_{35}X_{145}|^2 &: \frac{24 r^4 - 106 r^3 R + R^2 s^2 + r^2 (-83 R^2 + 8 s^2) + r (-16 R^3 + 6 R s^2)}{(2 r + R)^2} \\
|X_{35}X_{190}|^2 &: \frac{1}{(2 r + R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
&(-16 r^8 - 214 r^7 R + R^2 s^6 - r^6 (1039 R^2 + 32 s^2) + r^5 (-2200 R^3 + 278 R s^2) + r^4 (-2032 R^4 + 435 R^2 s^2 - 16 s^4) - 2 r^3 (512 R^5 - 308 R^3 s^2 + 9 R s^4) + r^2 (320 R^4 s^2 - 61 R^2 s^4) + r (-32 R^3 s^4 + 2 R s^6)) \\
|X_{35}X_{192}|^2 &: \frac{1}{(2 r + R)^2 (r^2 + 4 r R + s^2)^2} \\
&(-8 r^8 - 106 r^7 R + R^2 s^6 + 6 r R s^4 (-4 R^2 + s^2) - r^6 (507 R^2 + 8 s^2) + r^5 (-1032 R^3 + 242 R s^2) + r^4 (-816 R^4 + 651 R^2 s^2 + 8 s^4) - 2 r^3 (128 R^5 - 304 R^3 s^2 + 79 R s^4) + r^2 (144 R^4 s^2 - 121 R^2 s^4 + 8 s^6)) \\
|X_{35}X_{194}|^2 &: (-8 r^{12} - 170 r^{11} R + R^2 s^{10} - r^{10} (1483 R^2 + 24 s^2) - 2 r^9 (3392 R^3 + 81 R s^2) - r^8 (17184 R^4 + 331 R^2 s^2 + 16 s^4) - 28 r^7 (832 R^5 + 44 R^3 s^2 - R s^4) - 2 r^6 (7552 R^6 + 2352 R^4 s^2 - 817 R^2 s^4 - 8 s^6) - 4 r^5 (1024 R^7 + 832 R^5 s^2 - 884 R^3 s^4 + 33 R s^6) + r^4 (256 R^6 s^2 + 3232 R^4 s^4 + 378 R^2 s^6 + 24 s^8) + 2 r^3 (256 R^5 s^4 + 8 R^3 s^6 - 73 R s^8) + r^2 (-32 R^4 s^6 - 103 R^2 s^8 + 8 s^{10}) + r (-16 R^3 s^8 + 6 R s^{10})) \\
&((2 r + R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \\
|X_{35}X_{200}|^2 &: \frac{4 R (-2 r^4 R + R^3 s^2 + 2 r^3 (-8 R^2 + s^2) + 2 r R^2 (-8 R^2 + s^2) + r^2 (-27 R^3 + R s^2))}{(-2 r^2 + 3 r R + 2 R^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{35}X_{210}|^2 &: \frac{-4r^4R - 71r^2R^3 + 4R^3s^2 + 8r^3(-4R^2 + s^2) + r(-64R^4 + 6R^2s^2)}{9R(2r+R)^2} \\
|X_{35}X_{213}|^2 &: - \left((4r^2R^2(r^7R - s^6(R^2 + 2s^2) + 2r^6(8R^2 + 3s^2) + r^5(96R^3 + 49Rs^2) + r^4(256R^4 + 111R^2s^2 + 10s^4) + r^3(256R^5 + 72R^3s^2 + 95Rs^4) + 2r^2(56R^4s^2 + 39R^2s^4 + s^6) + r(8R^3s^4 + 15Rs^6))) \right) / \left((2r+R)^2(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2 \right) \\
|X_{35}X_{238}|^2 &: \frac{4r^2R(2r^5 + 27r^4R + 4R^3s^2 + 3Rs^4 + 4r^3(29R^2 + s^2) + 2r^2(72R^3 - 17Rs^2) + r(-64R^4 - 52R^2s^2 + 2s^4))}{(2r+R)^2(-3r^2 - 12rR + s^2)^2} \\
|X_{35}X_{239}|^2 &: \frac{1}{(2r+R)^2(-3r^2 - 12rR + s^2)^2} \\
& \quad (8r^8 + 110r^7R + R^2s^6 + r^6(557R^2 + 24s^2) + 2r^5(604R^3 + 65Rs^2) + r^4(848R^4 + 43R^2s^2 + 24s^4) - 2r^3(128R^5 + 200R^3s^2 + 51Rs^4) + r^2(-112R^4s^2 - 65R^2s^4 + 8s^6) + r(-8R^3s^4 + 6Rs^6)) \\
|X_{35}X_{244}|^2 &: - \frac{4r^2R(24r^5 + 114r^4R - 421r^2R^3 - Rs^2(R^2 + 2s^2) - 2r^3(7R^2 + 4s^2) + 2r(8R^4 + 29R^2s^2))}{(2r+R)^2(r^2 - 14rR + s^2)^2} \\
|X_{35}X_{304}|^2 &: (R(2r^{11} + 41r^{10}R + Rs^{10} + 2r^8(-12R^2 + s^2) + 6r^9(56R^2 + 11s^2) + r^8(1376R^3 + 721Rs^2) + 4r^7(704R^4 + 702R^2s^2 - 65s^4) + 6r^6(384R^5 + 792R^3s^2 - 235Rs^4) + 4r^5(832R^4s^2 - 574R^2s^4 + 47s^6) - 2r^4(512R^3s^4 - 87Rs^6) + r^3(-256R^4s^4 + 200R^2s^6 + 2s^8) + 3r^2(48R^3s^6 - 13Rs^8))) / ((2r+R)^2(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2) \\
|X_{35}X_{306}|^2 &: \frac{1}{(2r+R)^2(-3r^2 - 6rR + s^2)^2} \\
& \quad (8r^8 + 78r^7R + R^2s^6 + r^6(277R^2 - 32s^2) + 2r^5(206R^3 - 81Rs^2) + r^4(180R^4 - 217R^2s^2 + 24s^4) - 2r^3(32R^5 + 4R^3s^2 - 9Rs^4) + r^2(68R^4s^2 - 29R^2s^4) + r(-20R^3s^4 + 2Rs^6)) \\
|X_{35}X_{312}|^2 &: \frac{R(-30r^7 - 167r^6R - 13r^4Rs^2 + Rs^6 + r^5(-208R^2 + 102s^2) + r^3(-256R^4 + 120R^2s^2 + 6s^4) + r^2(144R^3s^2 - 37Rs^4) + r(-24R^2s^4 + 2s^6))}{(2r+R)^2(r^2 - 8rR + s^2)^2} \\
|X_{35}X_{319}|^2 &: \frac{1}{(2r+R)^2(r^2 + 4rR - 3s^2)^2} \\
& \quad (2r^7R - 213r^2R^2s^4 + 9R^2s^6 + r^6(25R^2 - 64s^2) + 2r^5(52R^3 - 213Rs^2) + r^4(144R^4 - 965R^2s^2 + 192s^4) - 6r^3(92R^3s^2 - 17Rs^4) - 18r(8R^3s^4 - Rs^6)) \\
|X_{35}X_{320}|^2 &: \frac{1}{(2r+R)^2(-3r^2 - 12rR + s^2)^2} \\
& \quad (18r^7R + 3r^2R^2s^4 + R^2s^6 + 3r^6(75R^2 - 64s^2) + 2rRs^4(-8R^2 + s^2) + 18r^5(52R^3 - 37Rs^2) + r^4(1296R^4 - 1053R^2s^2 + 64s^4) + r^3(-552R^3s^2 + 86Rs^4)) \\
|X_{35}X_{321}|^2 &: \frac{1}{(2r+R)^2(r^2 - 2rR + s^2)^2} \\
& \quad R(-14r^7 - 103r^6R + Rs^6 + r^5(-236R^2 + 102s^2) + r^4(-172R^3 + 179Rs^2) - 2r^3(32R^4 - 80R^2s^2 + 5s^4) + r^2(68R^3s^2 - 37Rs^4) + r(-20R^2s^4 + 2s^6)) \\
|X_{35}X_{345}|^2 &: \frac{1}{(2r+R)^2(-5r^2 - 8rR + s^2)^2} \\
& \quad (16r^8 + 122r^7R + R^2s^6 + r^6(289R^2 - 32s^2) + 2r^5(72R^3 - 65Rs^2) + r^4(-256R^4 - 57R^2s^2 + 16s^4) + r^3(-256R^5 + 200R^3s^2 + 6Rs^4) + r^2(144R^4s^2 - 41R^2s^4) + r(-24R^3s^4 + 2Rs^6))
\end{aligned}$$

$$|X_{35}X_{346}|^2:$$

$$\frac{-8r^6s^2+R^2s^6-4r^5(4R^3+3Rs^2)-4r^4(32R^4+9R^2s^2-2s^4)+r^3(-256R^5+160R^3s^2+6Rs^4)+3r^2(48R^4s^2-13R^2s^4)+r(-24R^3s^4+2Rs^6)}{(2r+R)^2(-2r^2-8rRs^2)^2}$$

$$|X_{35}X_{350}|^2:$$

$$\begin{aligned} & (R(2r^{11}+41r^{10}R+Rs^{10}+2rs^8(-12R^2+s^2)+42r^9(8R^2+s^2)+r^8(1376R^3+293Rs^2)+ \\ & 4r^7(704R^4+6R^2s^2+29s^4)+r^6(2304R^5-3120R^3s^2+698Rs^4)+ \\ & r^5(-4864R^4s^2+1448R^2s^4+116s^6)+r^4(2560R^3s^4-598Rs^6)+ \\ & r^3(-256R^4s^4-312R^2s^6+42s^8)+r^2(144R^3s^6-19Rs^8))) / \\ & ((2r+R)^2(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2) \end{aligned}$$

$$|X_{36}X_{37}|^2:$$

$$\frac{4r^2R(r^3R+2r^2(4R^2+s^2)+rR(16R^2+s^2)-s^2(R^2+2s^2))}{(2r-R)(r^2+4rRs^2)^2}$$

$$|X_{36}X_{38}|^2:$$

$$-\frac{4r^2R(6r^4+32r^3R+r^2(37R^2-8s^2)-16rR(R^2+s^2)+s^2(R^2+2s^2))}{(2r-R)(r^2-2rRs^2)^2}$$

$$|X_{36}X_{39}|^2:$$

$$\frac{4r^2R^2(r^7+16r^6R-Rs^6+r^5(96R^2-7s^2)+r^4(256R^3-65Rs^2)+r^3(256R^4-184R^2s^2+15s^4)+r^2(-144R^3s^2+62Rs^4)+3r(8R^2s^4-3s^6))}{(2r-R)(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2}$$

$$|X_{36}X_{40}|^2:$$

$$-\frac{4(r-R)^2R}{2r-R}$$

$$|X_{36}X_{41}|^2:$$

$$\frac{4r^2R^2(r^5+16r^4R-16R^3s^2+3Rs^4+r^3(96R^2-6s^2)+r^2(256R^3-49Rs^2)+r(256R^4-104R^2s^2+s^4))}{(2r-R)(r^3+8r^2R+16rR^2-3rs^2-2Rs^2)^2}$$

$$|X_{36}X_{42}|^2:$$

$$-\frac{4r^2R^2(2r^3+13r^2R-16rR^2+10rs^2+Rs^2)}{(2r-R)(r^2-2rRs^2)^2}$$

$$|X_{36}X_{43}|^2:$$

$$\frac{4r^2R(r^4+12r^3R-4R^2s^2+s^4+2r^2(6R^2+s^2)+4r(16R^3-5Rs^2))}{(2r-R)(r^2-8rRs^2)^2}$$

$$|X_{36}X_{44}|^2:$$

$$\frac{4r^2R(9r^3R-9R^2s^2+2s^4+6r^2(12R^2+s^2)+3r(48R^3-13Rs^2))}{(2r-R)(-3r^2-12rRs^2)^2}$$

$$|X_{36}X_{45}|^2:$$

$$\frac{4r^2R(9r^3R-9R^2s^2-4s^4+12r^2(6R^2+s^2)+3r(48R^3-5Rs^2))}{(2r-R)(3r^2+12rRs^2)^2}$$

$$|X_{36}X_{46}|^2:$$

$$-\frac{4r^4R}{(r-R)^2(2r-R)}$$

$$|X_{36}X_{55}|^2:$$

$$-\frac{9r^2R^3}{(2r-R)(r+R)^2}$$

$$|X_{36}X_{56}|^2:$$

$$-\frac{r^2R^3}{(r-R)^2(2r-R)}$$

$$|X_{36}X_{57}|^2:$$

$$-\frac{4r^2R(r+R)^2}{(r-2R)^2(2r-R)}$$

$$|X_{36}X_{58}|^2:$$

$$\frac{4r^2R^2(2r^3+11r^2R+16rR^2-6rs^2-Rs^2)}{(2r-R)(-3r^2-4rRs^2)^2}$$

$$|X_{36}X_{63}|^2:$$

$$-\frac{R(2r^4+6r^3R+R^2s^2+2rR(-8R^2+s^2)-r^2(3R^2+2s^2))}{(2r-R)(r+R)^2}$$

$$|X_{36}X_{65}|^2:$$

$$-\frac{r^2(2r+R)^2}{(2r-R)R}$$

$$|X_{36}X_{69}|^2:$$

$$-\frac{r^6R+7r^2Rs^4-16rR^2s^4+Rs^6+8r^5(R^2+2s^2)+r^4(16R^3+55Rs^2)+8r^3(9R^2s^2-2s^4)}{(2r-R)(r^2+4rRs^2)^2}$$

$$|X_{36}X_{72}|^2:$$

$$-\frac{2r^4+9r^3R+4r^2R^2-16rR^3-2r^2s^2+rRs^2+R^2s^2}{2rR-R^2}$$

$$|X_{36}X_{75}|^2:$$

$$-\frac{R(r^6+8r^5R-72r^3Rs^2+19r^2s^4-16rRs^4+s^6+r^4(16R^2-45s^2))}{(2r-R)(r^2+4rRs^2)^2}$$

$$\begin{aligned}
& |X_{36}X_{76}|^2: \\
& - \left((R (r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} + 8 r^3 R s^4 (-32 R^2 + s^2) + r^8 (96 R^2 + 5 s^2) + 8 r^7 \right. \\
& \quad (32 R^3 + 11 R s^2) + 2 r^6 (128 R^4 + 232 R^2 s^2 + 5 s^4) + \\
& \quad 24 r^5 (32 R^3 s^2 - 17 R s^4) + r^4 (-256 R^2 s^4 + 10 s^6) + r^2 (144 R^2 s^6 + 5 s^8))) / \\
& \quad \left((2 r - R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \\
& |X_{36}X_{78}|^2: - \frac{R (2 r^4 + 12 r^3 R - 16 r R^3 + R^2 s^2 + r^2 (13 R^2 - 2 s^2))}{(r-R)^2 (2 r-R)} \\
& |X_{36}X_{79}|^2: \frac{4 r^2 (2 r^3 + 11 r^2 R + 16 r R^2 - 6 r s^2 - R s^2)}{(2 r-R) (2 r+3 R)^2} \\
& |X_{36}X_{80}|^2: \frac{4 r^2 (3 r^2 + 4 r R + 4 R^2 - s^2)}{(-2 r+R)^2} \\
& |X_{36}X_{81}|^2: - \frac{r^2 R (2 r^4 + 6 r^3 R - 3 r^2 R^2 - 16 r R^3 + 4 r^2 s^2 + 14 r R s^2 + R^2 s^2 + 2 s^4)}{(2 r-R) (r^2 + r R - s^2)^2} \\
& |X_{36}X_{83}|^2: \\
& (8 r^{11} + 151 r^{10} R - R s^{10} - 8 r s^8 (-5 R^2 + s^2) + 24 r^9 (50 R^2 + s^2) + r^8 (5280 R^3 + 107 R s^2) + \\
& \quad 8 r^7 (1760 R^4 - 117 R^2 s^2 + 2 s^4) + r^6 (22 272 R^5 - 7312 R^3 s^2 - 74 R s^4) + \\
& \quad 8 r^5 (2048 R^6 - 2112 R^4 s^2 + 137 R^2 s^4 - 2 s^6) + r^4 (-13 312 R^5 s^2 + 6016 R^3 s^4 + 134 R s^6) + \\
& \quad 8 r^3 (512 R^4 s^4 - 167 R^2 s^6 - 3 s^8) + r^2 (-592 R^3 s^6 + 163 R s^8)) / \\
& \quad \left((2 r - R) (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2 \right) \\
& |X_{36}X_{85}|^2: - \frac{R (r^6 + 16 r^5 R + 8 r R s^4 + s^6 + r^4 (96 R^2 - 13 s^2) + 8 r^3 (32 R^3 - 13 R s^2) + r^2 (256 R^4 - 208 R^2 s^2 + 51 s^4))}{(2 r-R) (r^2 + 8 r R + 16 R^2 + s^2)^2} \\
& |X_{36}X_{86}|^2: - \frac{r^6 R + 3 r^2 R s^4 + R s^6 - 8 r^3 s^2 (R^2 - 2 s^2) + 8 r s^4 (-2 R^2 + s^2) + 8 r^5 (R^2 + s^2) + r^4 (16 R^3 + 3 R s^2)}{(2 r-R) (r^2 + 4 r R + 5 s^2)^2} \\
& |X_{36}X_{88}|^2: - \frac{r^2 R (54 r^4 + 18 r^3 R + 9 R^2 s^2 - 2 s^4 - 3 r^2 (33 R^2 + 4 s^2) - 6 r (24 R^3 - 7 R s^2))}{(2 r-R) (3 r^2 - 15 r R + s^2)^2} \\
& |X_{36}X_{89}|^2: - \frac{r^2 R (108 r^4 + 288 r^3 R + 9 R^2 s^2 + 4 s^4 + 3 r^2 (39 R^2 + 16 s^2) - 24 r (6 R^3 - 5 R s^2))}{(2 r-R) (-6 r^2 + 3 r R + 2 s^2)^2} \\
& |X_{36}X_{99}|^2: - \frac{R (r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2))}{(2 r-R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))} \\
& |X_{36}X_{141}|^2: \\
& \frac{2 r^7 + 21 r^6 R - R s^6 + 2 r^5 (38 R^2 - 7 s^2) + r^4 (112 R^3 - 71 R s^2) + 2 r^3 (32 R^4 - 52 R^2 s^2 + 7 s^4) + r^2 (-68 R^3 s^2 + 19 R s^4) + r (20 R^2 s^4 - 2 s^6)}{4 (2 r-R) (r^2 + 4 r R - s^2)^2} \\
& |X_{36}X_{142}|^2: \frac{2 r^5 + 21 r^4 R - 4 R^3 s^2 + r^3 (76 R^2 - 6 s^2) + r^2 (112 R^3 - 23 R s^2) + 8 r (8 R^4 - 3 R^2 s^2)}{4 (2 r-R) (r+4 R)^2} \\
& |X_{36}X_{145}|^2: \frac{12 r^3 - 69 r^2 R - R s^2 + 4 r (4 R^2 + s^2)}{2 r-R} \\
& |X_{36}X_{190}|^2: \\
& \frac{-8 r^7 - 89 r^6 R + 32 r R^2 s^4 - R s^6 + 5 r^2 R s^2 (-64 R^2 + s^2) - 8 r^5 (33 R^2 + 2 s^2) + r^4 (112 R^3 + 173 R s^2) + 8 r^3 (128 R^4 - 13 R^2 s^2 - s^4)}{(2 r-R) (-3 r^2 - 12 r R + s^2)^2} \\
& |X_{36}X_{192}|^2: \\
& - \frac{4 r^7 + 45 r^6 R + R s^6 + 4 r^5 (38 R^2 + s^2) + r^4 (80 R^3 - 133 R s^2) - 4 r^3 (64 R^4 + 32 R^2 s^2 + s^4) + r^2 (144 R^3 s^2 + 79 R s^4) - 4 r (6 R^2 s^4 + s^6)}{(2 r-R) (r^2 + 4 r R + s^2)^2} \\
& |X_{36}X_{194}|^2: \\
& (-4 r^{11} - 77 r^{10} R - R s^{10} + 4 r s^8 (4 R^2 + s^2) - 12 r^9 (48 R^2 + s^2) - r^8 (2016 R^3 + 53 R s^2) - \\
& \quad 8 r^7 (352 R^4 - 2 R^2 s^2 + s^4) + r^6 (768 R^5 - 416 R^3 s^2 + 46 R s^4) + \\
& \quad 8 r^5 (512 R^6 - 288 R^4 s^2 + 94 R^2 s^4 + s^6) + r^4 (-256 R^5 s^2 + 608 R^3 s^4 - 58 R s^6) + \\
& \quad r^3 (-512 R^4 s^4 + 176 R^2 s^6 + 12 s^8) + r^2 (32 R^3 s^6 - 81 R s^8)) / \\
& \quad \left((2 r - R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right)
\end{aligned}$$

$$\begin{aligned}
|X_{36}X_{200}|^2 &: \frac{4R(-2r^3R+16rR^3-R^2s^2+r^2(-13R^2+s^2))}{(r-2R)^2(2r-R)} \\
|X_{36}X_{210}|^2 &: -\frac{2r^3R+r^2R^2-64rR^3-4r^2s^2+6rRs^2+4R^2s^2}{18rR-9R^2} \\
|X_{36}X_{213}|^2 &: \frac{4r^2R^2(r^7+16r^6R-Rs^6+r^5(96R^2-s^2))+r^4(256R^3-Rs^2)+r^3(256R^4+40R^2s^2-5s^4)+2r^2(56R^3s^2-17Rs^4)+r(8R^2s^4-3s^6)}{(2r-R)(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2} \\
|X_{36}X_{238}|^2 &: \frac{4r^2R(r^4+12r^3R-4R^2s^2+s^4+2r^2(24R^2+s^2))+4r(16R^3-5Rs^2)}{(2r-R)(-3r^2-12rRs^2)^2} \\
|X_{36}X_{239}|^2 &: \frac{4r^7+43r^6R-Rs^6+12r^5(14R^2+s^2)+r^4(304R^3+37Rs^2)+4r^3(64R^4-4R^2s^2+3s^4)+r^2(112R^3s^2-71Rs^4)+4r(2R^2s^4+s^6)}{(2r-R)(-3r^2-12rRs^2)^2} \\
|X_{36}X_{244}|^2 &: \frac{4r^2R(-6r^3-19r^2R+Rs^2+2r(-8R^2+s^2))}{(r^2-14rRs^2)^2} \\
|X_{36}X_{304}|^2 &: -\left((R(r^{10}+16r^9R-24rRs^8+s^{10}+r^8(96R^2-31s^2))+8r^7(32R^3-37Rs^2)+2r^6(128R^4-440R^2s^2+63s^4)-8r^5(96R^3s^2-65Rs^4)+r^4(256R^2s^4-98s^6)-8r^3(32R^3s^4-5Rs^6)+r^2(144R^2s^6+s^8))\right)/\left((2r-R)(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2\right) \\
|X_{36}X_{306}|^2 &: \frac{4r^7+27r^6R+20rR^2s^4-Rs^6+4r^5(19R^2-4s^2)+r^4(108R^3-55Rs^2)+4r^3(16R^4-20R^2s^2+3s^4)-r^2(68R^3s^2+3Rs^4)}{(2r-R)(-3r^2-6rRs^2)^2} \\
|X_{36}X_{312}|^2 &: -\frac{R(17r^6+48r^5R-45r^4s^2-24rRs^4+s^6-8r^3(32R^3-3Rs^2))+3r^2(48R^2s^2+s^4)}{(2r-R)(r^2-8rRs^2)^2} \\
|X_{36}X_{319}|^2 &: -\frac{r^6R+99r^2Rs^4-144rR^2s^4+9Rs^6+8r^5(R^2+4s^2)+r^4(16R^3+155Rs^2)+24r^3(9R^2s^2-4s^4)}{(2r-R)(r^2+4rR-3s^2)^2} \\
|X_{36}X_{320}|^2 &: -\frac{9r^6R-5r^2Rs^4-16rR^2s^4+Rs^6+24r^5(3R^2+4s^2)+3r^4(48R^3+65Rs^2)+8r^3(27R^2s^2-4s^4)}{(2r-R)(-3r^2-12rRs^2)^2} \\
|X_{36}X_{321}|^2 &: -\frac{R(9r^6+44r^5R-20rRs^4+s^6+r^4(52R^2-45s^2))-8r^3(8R^3+5Rs^2)+r^2(68R^2s^2+11s^4)}{(2r-R)(r^2-2rRs^2)^2} \\
|X_{36}X_{345}|^2 &: \frac{8r^7+39r^6R+24rR^2s^4-Rs^6+16r^5(7R^2-s^2)+r^4(256R^3-39Rs^2)+8r^3(32R^4-13R^2s^2+s^4)+r^2(-144R^3s^2+Rs^4)}{(2r-R)(-5r^2-8rRs^2)^2} \\
|X_{36}X_{346}|^2 &: \frac{24rR^2s^4-Rs^6+4r^5(4R^2-s^2)+4r^3(-8R^2+s^2)^2+4r^4R(32R^2+s^2)-r^2Rs^2(144R^2+s^2)}{(2r-R)(-2r^2-8rRs^2)^2} \\
|X_{36}X_{350}|^2 &: -\left((R(r^{10}+16r^9R-24rRs^8+s^{10}+r^8(96R^2-11s^2))+8r^7(32R^3-9Rs^2)+r^6(256R^4-48R^2s^2-38s^4)+8r^5(32R^3s^2-43Rs^4)-2r^4(128R^2s^4+19s^6)-8r^3(32R^3s^4-29Rs^6)+r^2(144R^2s^6-11s^8))\right)/\left((2r-R)(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2\right) \\
|X_{37}X_{38}|^2 &: -\frac{4r^4R(2r^5+33r^4R-36R^3s^2-7Rs^4+4r^3(51R^2+s^2))+r^2(560R^3+26Rs^2)+2r(288R^4+2R^2s^2+s^4)}{(r^4+2r^3R+2rRs^2+s^4+r^2(-8R^2+2s^2))^2} \\
|X_{37}X_{39}|^2 &: -\frac{16r^2R^2s^4(3r^6+40r^5R+24rRs^4-s^6)+r^4(176R^2+5s^2)+64r^3(4R^3-Rs^2)+r^2(-144R^2s^2+s^4)}{(r^6+12r^5R-4rRs^4+s^6+8r^3R(8R^2+s^2)+3r^4(16R^2+s^2)+r^2(-16R^2s^2+3s^4))^2} \\
|X_{37}X_{40}|^2 &: \frac{4R(r^4R+Rs^4+r^3(8R^2-s^2))+r^2(16R^3-5Rs^2)+r(8R^2s^2-3s^4)}{(r^2+4rRs^2)^2} \\
|X_{37}X_{41}|^2 &: -\frac{4r^2Rs^4(6r^5+77r^4R-36R^3s^2+5Rs^4+4r^3(91R^2-5s^2))+94r^2(8R^3-Rs^2)+2r(288R^4-70R^2s^2+3s^4)}{(r^5+12r^4R-2rRs^4+r^3(48R^2-2s^2))+r^2(64R^3-6Rs^2)+r(8R^2s^2-3s^4))^2} \\
|X_{37}X_{42}|^2 &: -\frac{4r^2R(r^6R-4Rs^6+2r^5(6R^2-s^2)+6r^4R(8R^2+s^2)+r^2Rs^2(124R^2+s^2)+r^3(64R^4+60R^2s^2-4s^4)+r(56R^2s^4-2s^6))}{(r^4+2r^3R+2rRs^2+s^4+r^2(-8R^2+2s^2))^2} \\
|X_{37}X_{43}|^2 &: \frac{4r^2R(r^7+12r^6R-2r^2Rs^4+9Rs^6+3r^4(-48R^2+s^2))+r^4R(64R^2+s^2)+r^5(48R^2+5s^2)+r^3(32R^2s^2+7s^4)}{(r^4-4r^3R-4rRs^2+s^4+r^2(-32R^2+2s^2))^2}
\end{aligned}$$

$$\begin{aligned}
|X_{37}X_{44}|^2 &= -\frac{64 r^2 R s^4 (r^3+8 r^2 R+16 r R^2-r s^2-R s^2)}{(3 r^4+24 r^3 R+8 r R s^2-s^4+2 r^2 (24 R^2+s^2))^2} \\
|X_{37}X_{45}|^2 &= -\frac{16 r^2 R s^4 (r^3+8 r^2 R+16 r R^2-r s^2-R s^2)}{(3 r^4+24 r^3 R+16 r R s^2+s^4+4 r^2 (12 R^2+s^2))^2} \\
|X_{37}X_{46}|^2 &= -\frac{4 r^2 R (r^3 (R^2+s^2)-R s^2 (R^2+2 s^2)+r^2 (8 R^3+9 R s^2)+r (16 R^4+R^2 s^2+3 s^4))}{(r-R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{55}|^2 &= -\frac{r^2 R (r^4 R-4 R^3 s^2+R s^4+4 r^3 (3 R^2-s^2)+6 r^2 (8 R^3-3 R s^2)+4 r (16 R^4-9 R^2 s^2+s^4))}{(r+R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{56}|^2 &= \frac{r^2 R (3 r^4 R+4 R^3 s^2+3 R s^4+4 r^3 (5 R^2+s^2)+2 r^2 (8 R^3-3 R s^2)-4 r (16 R^4+3 R^2 s^2+s^4))}{(r-R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{57}|^2 &= -\frac{4 r^2 R (r^4 R-4 R^3 s^2-3 R s^4+r^3 (12 R^2+s^2)+r^2 (48 R^3+13 R s^2)+r (64 R^4+8 R^2 s^2+3 s^4))}{(r-2 R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{58}|^2 &= \frac{4 r^2 R (r^6 R-55 r^2 R s^4+4 R s^6+r^5 (8 R^2+6 s^2)+2 r^4 (8 R^3+11 R s^2)+20 r^3 (2 R^2 s^2-s^4)+r (-64 R^2 s^4+6 s^6))}{(3 r^4+16 r^3 R-s^4+2 r^2 (8 R^2+s^2))^2} \\
|X_{37}X_{63}|^2 &= -\frac{R (r^6 R-R s^6+2 r^5 (6 R^2+s^2)+r^4 (48 R^3+25 R s^2)+8 r^3 (8 R^4+7 R^2 s^2+s^4)+r^2 (60 R^3 s^2+11 R s^4)+2 r (6 R^2 s^4-s^6))}{(r+R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{65}|^2 &= -\frac{r^2 (2 r^5+21 r^4 R-4 R^3 s^2-3 R s^4+4 r^3 (19 R^2+s^2)+2 r^2 (56 R^3+9 R s^2)+2 r (32 R^4+2 R^2 s^2+s^4))}{R (r^2+4 r R+s^2)^2} \\
|X_{37}X_{69}|^2 &= -\frac{1}{(r^4+8 r^3 R+16 r^2 R^2-s^4)^2} (r^{10}+20 r^9 R+12 r R s^8-s^{10}-16 r^3 R s^4 (-18 R^2+s^2)+64 r^7 R (10 R^2+s^2)+ \\
&\quad r^8 (160 R^2+7 s^2)+2 r^6 (640 R^4+102 R^2 s^2+3 s^4)+16 r^5 (64 R^5+22 R^3 s^2+3 R s^4)+ \\
&\quad 2 r^4 (224 R^4 s^2+84 R^2 s^4-3 s^6)+r^2 (44 R^2 s^6-7 s^8)) \\
|X_{37}X_{72}|^2 &= -\frac{(r^2+2 r R+s^2)^2 (r^3+8 r^2 R+16 r R^2-r s^2-R s^2)}{R (r^2+4 r R+s^2)^2} \\
|X_{37}X_{75}|^2 &= -\frac{r^6+12 r^5 R+20 r R s^4-s^6+r^4 (48 R^2+s^2)+8 r^3 (8 R^3-5 R s^2)-r^2 (68 R^2 s^2+s^4)}{(r^2+4 r R+s^2)^2} \\
|X_{37}X_{76}|^2 &= -\left((r^{14}+28 r^{13} R+20 r R s^{12}-s^{14}+8 r^3 R s^8 (16 R^2+5 s^2)-r^2 s^{10} (68 R^2+5 s^2)+r^{12} \right. \\
&\quad (336 R^2+5 s^2)+8 r^{11} (280 R^3+9 R s^2)+28 r^9 R (768 R^4+16 R^2 s^2+s^4)- \\
&\quad 3 r^4 s^6 (384 R^4+32 R^2 s^2+3 s^4)+r^{10} (8960 R^4+348 R^2 s^2+9 s^4)+ \\
&\quad r^8 (28672 R^6-1152 R^4 s^2-272 R^2 s^4+5 s^6)+16 r^7 (1024 R^7-192 R^5 s^2-68 R^3 s^4-3 R s^6)- \\
&\quad r^6 (1024 R^6 s^2+312 R^2 s^6+5 s^8)+4 r^5 (512 R^5 s^4-304 R^3 s^6-3 R s^8)) / \\
&\quad \left. (r^6+12 r^5 R-4 r R s^4+s^6+8 r^3 R (8 R^2+s^2)+3 r^4 (16 R^2+s^2)+r^2 (-16 R^2 s^2+3 s^4))^2 \right) \\
|X_{37}X_{78}|^2 &= -\frac{R (2 r^7+21 r^6 R+12 r R^2 s^4-R s^6+r^5 (76 R^2-8 s^2)+7 r^4 (16 R^3-R s^2)+r^3 (64 R^4+40 R^2 s^2-2 s^4)+r^2 (60 R^3 s^2-9 R s^4))}{(r-R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{79}|^2 &= -\frac{4 r^2 (r^5 R-9 R^4 s^2-12 R^2 s^4+2 s^6+2 r^4 (7 R^2+s^2)+r^3 (73 R^3+2 R s^2)+2 r^2 (84 R^4-21 R^2 s^2+2 s^4)+3 r (48 R^5-31 R^3 s^2+3 R s^4))}{(2 r+3 R)^2 (r^2+4 r R+s^2)^2} \\
|X_{37}X_{80}|^2 &= \frac{4 r^2 (r^5+10 r^4 R-R s^2 (R^2+2 s^2)+r^3 (33 R^2+2 s^2)+r^2 (10 R^3+3 R s^2)+r (16 R^4+9 R^2 s^2+s^4))}{(2 r-R) (r^2+4 r R+s^2)^2} \\
|X_{37}X_{81}|^2 &= -\frac{r^2 R (r^6 R-9 R s^6+4 r^5 (3 R^2+s^2)+r^4 (48 R^3+49 R s^2)+8 r^3 (8 R^4+19 R^2 s^2+3 s^4)+r^2 (188 R^3 s^2+87 R s^4)+12 r (11 R^2 s^4-s^6))}{(r^4+5 r^3 R+4 r^2 R^2-3 r R s^2-s^4)^2}
\end{aligned}$$

$$|X_{37}X_{83}|^2: \quad \left(-r^{14} - 28 r^{13} R - 52 r R s^{12} + s^{14} + \right. \\
r^2 s^{10} (1028 R^2 - 11 s^2) + r^{12} (-336 R^2 + 11 s^2) - 8 r^{11} (280 R^3 - 39 R s^2) + \\
r^4 s^6 (43 136 R^4 - 5088 R^2 s^2 - 39 s^4) + r^{10} (-8960 R^4 + 3492 R^2 s^2 + 39 s^4) - \\
4 r^9 (5376 R^5 - 5008 R^3 s^2 - 33 R s^4) + r^8 (-28 672 R^6 + 62 592 R^4 s^2 - 3760 R^2 s^4 + 27 s^6) - \\
16 r^7 (1024 R^7 - 6336 R^5 s^2 + 1996 R^3 s^4 - 47 R s^6) + \\
r^6 (66 560 R^6 s^2 - 91 136 R^4 s^4 + 7800 R^2 s^6 - 27 s^8) - \\
4 r^5 (22 016 R^5 s^4 - 8112 R^3 s^6 + 157 R s^8) + r^3 (-9600 R^3 s^8 + 408 R s^{10}) \Big) / \\
(5 r^6 + 60 r^5 R - 20 r R s^4 + 5 s^6 + r^4 (240 R^2 - s^2) + 8 r^3 (40 R^3 - 3 R s^2) - r^2 (80 R^2 s^2 + s^4) \Big)^2$$

$$|X_{37}X_{85}|^2: \quad - \Big((r^{10} + 28 r^9 R - s^{10} + 32 r^7 R (70 R^2 + s^2) + 3 r^8 (112 R^2 + s^2) + 64 r^5 (336 R^5 - 13 R^3 s^2) + \\
2 r^6 (4480 R^4 + 14 R^2 s^2 + s^4) + 16 r^3 R (1024 R^6 - 320 R^4 s^2 - 60 R^2 s^4 + s^6) - \\
2 r^4 (-14 336 R^6 + 1856 R^4 s^2 + 92 R^2 s^4 + s^6) - \\
r^2 (1024 R^6 s^2 + 1408 R^4 s^4 - 124 R^2 s^6 + 3 s^8) + 4 r (16 R^3 s^6 + 5 R s^8) \Big) / \\
(r^4 + 12 r^3 R + 16 R^2 s^2 + s^4 + 2 r^2 (24 R^2 + s^2) + 4 r (16 R^3 + 3 R s^2) \Big)^2$$

$$|X_{37}X_{86}|^2: \quad - \Big((r^{10} + 20 r^9 R + 28 r R s^8 - s^{10} + 128 r^7 R (5 R^2 + s^2) + \\
r^8 (160 R^2 + 11 s^2) + 2 r^6 (640 R^4 + 294 R^2 s^2 + 13 s^4) + 32 r^5 (32 R^5 + 43 R^3 s^2 + 3 R s^4) + \\
2 r^4 (736 R^4 s^2 + 12 R^2 s^4 + 11 s^6) + 112 r^3 (2 R^3 s^4 - R s^6) + r^2 (-212 R^2 s^6 + 5 s^8) \Big) / \\
(r^4 + 8 r^3 R + 24 r R s^2 + 5 s^4 + 2 r^2 (8 R^2 + 3 s^2) \Big)^2$$

$$|X_{37}X_{88}|^2: \quad - \Big((r^2 R (81 r^6 R - 25 R s^6 + 36 r^5 (27 R^2 + s^2) + 27 r^4 (144 R^3 + 19 R s^2) + \\
8 r^3 (648 R^4 - 189 R^2 s^2 + 11 s^4) - r^2 (3204 R^3 s^2 + 313 R s^4) + 20 r (29 R^2 s^4 + s^6) \Big) / \\
(3 r^4 - 3 r^3 R - 11 r R s^2 + s^4 + r^2 (-60 R^2 + 4 s^2) \Big)^2$$

$$|X_{37}X_{89}|^2: \quad - \Big((r^2 R (81 r^6 R - 49 R s^6 + 36 r^5 (27 R^2 + 4 s^2) + 27 r^4 (144 R^3 + 67 R s^2) + \\
8 r^3 (648 R^4 + 459 R^2 s^2 + 68 s^4) + r^2 (3708 R^3 s^2 + 527 R s^4) + 28 r (19 R^2 s^4 - 4 s^6) \Big) / \\
(6 r^4 + 21 r^3 R - 11 r R s^2 - 2 s^4 + 4 r^2 (-3 R^2 + s^2) \Big)^2$$

$$|X_{37}X_{99}|^2: \quad - \Big((r^{10} + 20 r^9 R + 12 r R s^8 - s^{10} + 16 r^7 R (40 R^2 + s^2) + \\
r^8 (160 R^2 + 3 s^2) + 2 r^6 (640 R^4 + 6 R^2 s^2 + s^4) + 16 r^5 (64 R^5 + 6 R^3 s^2 + 3 R s^4) + \\
r^4 (448 R^4 s^2 + 88 R^2 s^4 - 2 s^6) + 32 r^3 (9 R^3 s^4 - 2 R s^6) + r^2 (44 R^2 s^6 - 3 s^8) \Big) / \\
\Big((r^2 + 4 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \Big)$$

$$|X_{37}X_{141}|^2: \quad - \frac{1}{4 (r^4 + 8 r^3 R + 16 r^2 R^2 - s^4)^2} (r^{10} + 20 r^9 R + 640 r^7 R^3 + 20 r R s^8 - s^{10} - 32 r^3 R s^4 (-11 R^2 + s^2) + \\
r^8 (160 R^2 + 3 s^2) + 2 r^6 (640 R^4 - 90 R^2 s^2 + s^4) + 8 r^5 (128 R^5 - 84 R^3 s^2 + 7 R s^4) - \\
2 r^4 (288 R^4 s^2 - 140 R^2 s^4 + s^6) - 3 r^2 (28 R^2 s^6 + s^8) \Big)$$

$$|X_{37}X_{142}|^2: \quad - \frac{1}{4 (r+4 R)^2 (r^2+4 r R+s^2)^2} \\
(r^8 + 20 r^7 R + 640 r^5 R^3 + 96 r R^3 s^4 - 4 R^2 s^6 + r^6 (160 R^2 + 3 s^2) + r^4 (1280 R^4 - 180 R^2 s^2 + 3 s^4) + \\
4 r^3 (256 R^5 - 168 R^3 s^2 + 3 R s^4) + r^2 (-576 R^4 s^2 + 24 R^2 s^4 + s^6) \Big)$$

$$|X_{37}X_{145}|^2: \quad \frac{7 r^6 + 20 r^5 R - 4 r R s^4 + s^6 + 24 r^3 R (-24 R^2 + s^2) + r^4 (-176 R^2 + 15 s^2) + r^2 (-156 R^2 s^2 + 9 s^4)}{(r^2 + 4 r R + s^2)^2}$$

$$|X_{37}X_{190}|^2: \quad - \left((r^{10} + 20 r^9 R + 28 r R s^8 - s^{10} + 128 r^7 R (5 R^2 + s^2) + \right. \\ \left. r^8 (160 R^2 + 11 s^2) + 2 r^6 (640 R^4 + 294 R^2 s^2 + 13 s^4) + 32 r^5 (32 R^5 + 43 R^3 s^2 + 3 R s^4) + \right. \\ \left. 2 r^4 (736 R^4 s^2 + 12 R^2 s^4 + 11 s^6) + 112 r^3 (2 R^3 s^4 - R s^6) + r^2 (-212 R^2 s^6 + 5 s^8) \right) / \\ \left(3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2) \right)^2$$

$$|X_{37}X_{192}|^2: \quad - \frac{r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4)}{(r^2 + 4 r R + s^2)^2}$$

$$|X_{37}X_{194}|^2: \quad - \left((r^{14} + 28 r^{13} R + 8 r^3 R s^{10} + 4 r R s^{12} - s^{14} - 5 r^2 s^{10} (-44 R^2 + s^2) + r^{12} (336 R^2 + 5 s^2) + \right. \\ \left. 8 r^{11} (280 R^3 + 13 R s^2) - r^4 s^6 (7808 R^4 + 128 R^2 s^2 + 9 s^4) + r^{10} (8960 R^4 + 988 R^2 s^2 + 9 s^4) + \right. \\ \left. 4 r^9 (5376 R^5 + 1392 R^3 s^2 + 35 R s^4) + r^8 (28672 R^6 + 19328 R^4 s^2 + 400 R^2 s^4 + 5 s^6) + \right. \\ \left. 16 r^7 (1024 R^7 + 2368 R^5 s^2 - 44 R^3 s^4 + 5 R s^6) + \right. \\ \left. r^6 (31744 R^6 s^2 - 512 R^4 s^4 - 600 R^2 s^6 - 5 s^8) + 4 r^5 (2048 R^5 s^4 - 1520 R^3 s^6 + 5 R s^8) \right) / \\ \left(r^6 + 12 r^5 R - 4 r R s^4 + s^6 + 8 r^3 R (8 R^2 + s^2) + 3 r^4 (16 R^2 + s^2) + r^2 (-16 R^2 s^2 + 3 s^4) \right)^2$$

$$|X_{37}X_{200}|^2: \quad - \frac{4 R (r^6 R + 12 r R^2 s^4 - R s^6 + 3 r^5 (4 R^2 - s^2) + 6 r^4 (8 R^3 - R s^2) + r^3 (64 R^4 + 12 R^2 s^2 - s^4) + r^2 (60 R^3 s^2 - 7 R s^4))}{(r - 2 R)^2 (r^2 + 4 r R + s^2)^2}$$

$$|X_{37}X_{210}|^2: \quad - \frac{r^6 R + 4 r R s^6 + 2 r^5 (-6 R^2 + s^2) - 6 r^4 R (8 R^2 + s^2) - r^2 R s^2 (124 R^2 + s^2) + r^3 (-64 R^4 - 60 R^2 s^2 + 4 s^4) + r (-56 R^2 s^4 + 2 s^6)}{9 R (r^2 + 4 r R + s^2)^2}$$

$$|X_{37}X_{213}|^2: \quad - \frac{16 r^2 R s^4 (r^2 + 2 r R + s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^6 + 12 r^5 R - s^6 + r^4 (48 R^2 + s^2) + 4 r^3 (16 R^3 + 3 R s^2) + r^2 (32 R^2 s^2 - s^4))^2}$$

$$|X_{37}X_{238}|^2: \quad - \frac{4 r^2 R (r^2 + 4 r R - 3 s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2))^2}$$

$$|X_{37}X_{239}|^2: \quad \left(-r^{10} - 20 r^9 R + 4 r R s^8 + s^{10} + 5 r^8 (-32 R^2 + s^2) - \right. \\ \left. 128 r^7 (5 R^3 - R s^2) + r^6 (-1280 R^4 + 948 R^2 s^2 + 22 s^4) - 32 r^5 (32 R^5 - 85 R^3 s^2 - 2 R s^4) + \right. \\ \left. r^4 (2624 R^4 s^2 - 472 R^2 s^4 + 26 s^6) - 16 r^3 (94 R^3 s^4 - 3 R s^6) + r^2 (-236 R^2 s^6 + 11 s^8) \right) / \\ \left(3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2) \right)^2$$

$$|X_{37}X_{244}|^2: \quad - \left((4 r^2 R (4 r^7 + 73 r^6 R - 4 R s^6 + 2 r^5 (246 R^2 + 5 s^2) + 2 r^4 (728 R^3 + 27 R s^2) + 4 r^3 \right. \\ \left. (400 R^4 - 93 R^2 s^2 + 2 s^4) - r^2 (740 R^3 s^2 + 23 R s^4) + 2 r (52 R^2 s^4 + s^6) \right) / \\ \left(r^4 - 10 r^3 R - 10 r R s^2 + s^4 + r^2 (-56 R^2 + 2 s^2) \right)^2$$

$$|X_{37}X_{304}|^2: \quad \left(-r^{14} - 28 r^{13} R + 40 r^3 R s^{10} - 20 r R s^{12} + s^{14} + 8 r^{11} R (-280 R^2 + s^2) + r^2 s^{10} (68 R^2 + s^2) - \right. \\ \left. r^{12} (336 R^2 + s^2) + 4 r^9 R (-5376 R^4 + 528 R^2 s^2 + s^4) + \right. \\ \left. r^{10} (-8960 R^4 + 292 R^2 s^2 + 3 s^4) + r^8 (-28672 R^6 + 6272 R^4 s^2 + 3 s^6) - \right. \\ \left. 16 r^7 (1024 R^7 - 448 R^5 s^2 - 44 R^3 s^4 + 3 R s^6) + r^6 (1024 R^6 s^2 + 2816 R^4 s^4 - 616 R^2 s^6 - 3 s^8) + \right. \\ \left. 4 r^5 (512 R^5 s^4 - 400 R^3 s^6 + 11 R s^8) + r^4 (-1152 R^4 s^6 + 80 R^2 s^8 - 3 s^{10}) \right) / \\ \left(r^6 + 12 r^5 R + 4 r R s^4 - s^6 + 16 r^3 R (4 R^2 + s^2) + r^4 (48 R^2 + s^2) + r^2 (48 R^2 s^2 - s^4) \right)^2$$

$$|X_{37}X_{306}|^2: \quad - \left((r^{10} + 16 r^9 R + 16 r R s^8 - s^{10} - 8 r^7 R (-38 R^2 + s^2) + \right. \\ \left. r^8 (100 R^2 + 3 s^2) + 2 r^6 (224 R^4 - 40 R^2 s^2 + s^4) + 16 r^5 (16 R^5 - 7 R^3 s^2 + 3 R s^4) - \right. \\ \left. 2 r^4 (8 R^4 s^2 - 66 R^2 s^4 + s^6) + 8 r^3 (16 R^3 s^4 - 5 R s^6) - r^2 (8 R^2 s^6 + 3 s^8) \right) / \\ \left(3 r^4 + 18 r^3 R + 2 r R s^2 - s^4 + 2 r^2 (12 R^2 + s^2) \right)^2$$

$$|X_{37}X_{312}|^2: \quad - \frac{(r^2 + s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^4 - 4 r^3 R - 4 r R s^2 + s^4 + r^2 (-32 R^2 + 2 s^2))^2}$$

$$|X_{37}X_{319}|^2:$$

$$-\left((r^{10} + 20 r^9 R + 108 r R s^8 - 9 s^{10} + 128 r^7 R (5 R^2 + s^2) + r^8 (160 R^2 + 11 s^2) + 2 r^6 (640 R^4 + 294 R^2 s^2 - 7 s^4) + 16 r^5 (64 R^5 + 86 R^3 s^2 - R s^4) + 2 r^4 (736 R^4 s^2 + 236 R^2 s^4 - 33 s^6) + 48 r^3 (26 R^3 s^4 - 3 R s^6) + r^2 (492 R^2 s^6 - 51 s^8)) / (r^4 + 8 r^3 R - 8 r R s^2 - 3 s^4 + 2 r^2 (8 R^2 - s^2))^2 \right)$$

$$|X_{37}X_{320}|^2:$$

$$(-9 r^{10} - 180 r^9 R - 12 r R s^8 + s^{10} + 16 r^3 R s^4 (-46 R^2 + s^2) - 384 r^7 R (15 R^2 + s^2) - 3 r^8 (480 R^2 + 17 s^2) - 6 r^6 (1920 R^4 + 114 R^2 s^2 + 11 s^4) - 16 r^5 (576 R^5 + 6 R^3 s^2 + 19 R s^4) - 2 r^4 (480 R^4 s^2 + 172 R^2 s^4 + 7 s^6) + r^2 (-12 R^2 s^6 + 11 s^8)) / (3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2))^2$$

$$|X_{37}X_{321}|^2:$$

$$-\frac{(r^2 + 2 r R + s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^4 + 2 r^3 R + 2 r R s^2 + s^4 + r^2 (-8 R^2 + 2 s^2))^2}$$

$$|X_{37}X_{345}|^2:$$

$$-\frac{(r^2 - s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(5 r^4 + 28 r^3 R + 4 r R s^2 - s^4 + 4 r^2 (8 R^2 + s^2))^2}$$

$$|X_{37}X_{346}|^2:$$

$$\frac{s^4 (-r^6 - 12 r^5 R - 20 r R s^4 + s^6 - r^4 (48 R^2 + s^2) - 8 r^3 (8 R^3 - 5 R s^2) + r^2 (68 R^2 s^2 + s^4))}{(2 r^4 + 16 r^3 R + 4 r R s^2 - s^4 + r^2 (32 R^2 + s^2))^2}$$

$$|X_{37}X_{350}|^2:$$

$$-\frac{(r^4 + 8 r^3 R + s^4 + 2 r^2 (8 R^2 + s^2))^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^6 + 12 r^5 R + 64 r^3 R^3 - 12 r R s^4 + s^6 + 3 r^4 (16 R^2 + s^2) + r^2 (-48 R^2 s^2 + 3 s^4))^2}$$

$$|X_{38}X_{39}|^2:$$

$$-\left((4 r^2 R (2 r^{11} + 49 r^{10} R - 4 R s^{10} - 2 r s^8 (-60 R^2 + s^2) + 32 r^8 R (85 R^2 + s^2) + r^9 (500 R^2 + 6 s^2) + 4 r^7 (2080 R^4 - 99 R^2 s^2 + s^4) + 2 r^6 (6784 R^5 - 1938 R^3 s^2 - 13 R s^4) + 4 r^5 (2304 R^6 - 2872 R^4 s^2 + 113 R^2 s^4 - s^6) + r^4 (-11328 R^5 s^2 + 3672 R^3 s^4 + 44 R s^6) + r^3 (5344 R^4 s^4 - 580 R^2 s^6 - 6 s^8) + r^2 (-1188 R^3 s^6 + 49 R s^8)) / (r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4))^2 \right)$$

$$|X_{38}X_{40}|^2:$$

$$-\frac{4 R (r^5 + 14 r^4 R - R s^4 + r^3 (48 R^2 - 4 s^2) - r^2 (4 R^3 + 23 R s^2) + r (4 R^2 s^2 + 3 s^4))}{(r^2 - 2 r R + s^2)^2}$$

$$|X_{38}X_{41}|^2:$$

$$-\left((4 r^2 R (2 r^9 + 49 r^8 R - 36 R^3 s^6 + 5 R s^8 + 20 r^7 (25 R^2 - s^2) + 8 r^6 (340 R^3 - 41 R s^2) + 4 r^5 (2080 R^4 - 531 R^2 s^2 + 14 s^4) + 2 r^4 (6784 R^5 - 3346 R^3 s^2 + 265 R s^4) + 4 r^3 (2304 R^6 - 2488 R^4 s^2 + 447 R^2 s^4 - 11 s^6) - 8 r^2 (648 R^5 s^2 - 291 R^3 s^4 + 22 R s^6) + 2 r (432 R^4 s^4 - 98 R^2 s^6 + 3 s^8)) / (r^5 + 6 r^4 R - 2 r^3 s^2 - 2 R s^4 - 4 r^2 (8 R^3 - 3 R s^2) + r (20 R^2 s^2 - 3 s^4))^2 \right)$$

$$|X_{38}X_{42}|^2:$$

$$-\frac{16 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^2 - 2 r R + s^2)^2}$$

$$|X_{38}X_{43}|^2:$$

$$-\left((4 r^2 R (2 r^7 - 21 r^6 R - 9 R s^6 - 2 r^5 (60 R^2 + s^2) + 7 r^4 (80 R^3 + 11 R s^2) + 2 r^3 (1152 R^4 - 208 R^2 s^2 - 5 s^4) + r^2 (-1296 R^3 s^2 + 89 R s^4) + 6 r (36 R^2 s^4 - s^6)) / (r^4 - 10 r^3 R - 10 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right)$$

$$|X_{38}X_{44}|^2:$$

$$-\left((4 r^2 R (18 r^7 + 297 r^6 R - 16 R s^6 + 12 r^5 (153 R^2 - 4 s^2) + 6 r^4 (840 R^3 - 97 R s^2) + 6 r^3 (864 R^4 - 410 R^2 s^2 + 7 s^4) + r^2 (-2628 R^3 s^2 + 385 R s^4) + 20 r (20 R^2 s^4 - s^6)) / (3 r^4 + 6 r^3 R + 14 r R s^2 - s^4 + r^2 (-24 R^2 + 2 s^2))^2 \right)$$

$$\begin{aligned}
& |X_{38}X_{45}|^2: \\
& - \left((4 r^2 R (18 r^7 + 297 r^6 R - 4 R s^6 + 6 r^5 (306 R^2 - s^2) + 6 r^4 (840 R^3 - 29 R s^2) + 6 r^3 (864 R^4 - 202 R^2 s^2 + s^4) + r^2 (-1476 R^3 s^2 + 85 R s^4) + 2 r (68 R^2 s^4 - s^6)) \right) / \\
& (3 r^4 + 6 r^3 R + 10 r R s^2 + s^4 + 4 r^2 (-6 R^2 + s^2))^2 \\
& |X_{38}X_{46}|^2: - \frac{4 r^2 R (r^5 + 9 r^4 R + 4 r^3 (3 R^2 - s^2) - R s^2 (R^2 + 2 s^2) - r^2 (37 R^3 + 13 R s^2) + r (16 R^4 + 16 R^2 s^2 + 3 s^4))}{(r-R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{55}|^2: - \frac{r^2 R (12 r^5 + 109 r^4 R - 4 R^3 s^2 + R s^4 + 4 r^3 (75 R^2 - 4 s^2) + 6 r^2 (40 R^3 - 11 R s^2) + 4 r (16 R^4 - 9 R^2 s^2 + s^4))}{(r+R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{56}|^2: - \frac{r^2 R (12 r^5 + 41 r^4 R - 4 R^3 s^2 - 3 R s^4 - 4 r^3 (5 R^2 + 4 s^2) - 2 r^2 (48 R^3 + 5 R s^2) + 4 r (16 R^4 + 7 R^2 s^2 + s^4))}{(r-R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{57}|^2: - \frac{4 r^2 R (r^5 + 4 r^4 R - 4 R^3 s^2 - 3 R s^4 - 4 r^3 (3 R^2 + s^2) - r^2 (32 R^3 + 3 R s^2) + r (64 R^4 + 24 R^2 s^2 + 3 s^4))}{(r-2 R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{58}|^2: - \frac{16 r^2 R (r^2 + 3 r R - s^2)^2 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(-3 r^4 + 2 r^3 R - 6 r R s^2 + s^4 + r^2 (8 R^2 - 2 s^2))^2} \\
& |X_{38}X_{63}|^2: - \frac{R (r^2 + 4 r R - s^2)^2 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(r+R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{65}|^2: - \frac{r^2 (2 r^5 + 5 r^4 R - 4 R^3 s^2 - 3 R s^4 + 4 r^3 (7 R^2 + s^2) + 2 r^2 R (16 R^2 + s^2) + 2 r (32 R^4 + 10 R^2 s^2 + s^4))}{R (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{69}|^2: \frac{1}{(r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2} \\
& (-3 r^{10} - 48 r^9 R - 24 r R s^8 + s^{10} + 24 r^7 R (-40 R^2 + s^2) - 24 r^3 R s^4 (24 R^2 + s^2) - \\
& r^8 (304 R^2 + 7 s^2) - 2 r^6 (768 R^4 - 112 R^2 s^2 + s^4) - 8 r^5 (128 R^5 - 96 R^3 s^2 + 7 R s^4) + \\
& 2 r^4 (544 R^4 s^2 - 72 R^2 s^4 + 3 s^6) + 5 r^2 (32 R^2 s^6 + s^8)) \\
& |X_{38}X_{72}|^2: \frac{-r^7 + 6 r^6 R + R s^6 + r^5 (24 R^2 - s^2) - r^4 (92 R^3 + 11 R s^2) + r^3 (-256 R^4 + 72 R^2 s^2 + s^4) + 16 r^2 (9 R^3 s^2 - R s^4) + r (-24 R^2 s^4 + s^6)}{R (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{75}|^2: \\
& (-3 r^{10} - 48 r^9 R - 24 r R s^8 + s^{10} + 8 r^3 R s^4 (8 R^2 + s^2) - 40 r^7 R (24 R^2 + s^2) - r^8 (304 R^2 + 11 s^2) - \\
& 2 r^6 (768 R^4 + 112 R^2 s^2 + 7 s^4) - 8 r^5 (128 R^5 + 96 R^3 s^2 - 5 R s^4) + \\
& r^4 (-960 R^4 s^2 + 208 R^2 s^4 - 6 s^6) + r^2 (128 R^2 s^6 + s^8)) / \\
& (r^4 + 2 r^3 R + 2 r R s^2 + s^4 + r^2 (-8 R^2 + 2 s^2))^2 \\
& |X_{38}X_{76}|^2: (-3 r^{14} - 72 r^{13} R - 32 r R s^{12} + s^{14} - 40 r^3 R s^8 (56 R^2 + s^2) + \\
& r^2 s^{10} (368 R^2 + 3 s^2) - r^{12} (736 R^2 + 17 s^2) - 40 r^{11} (104 R^3 + 5 R s^2) + \\
& r^4 s^6 (8256 R^4 + 224 R^2 s^2 - 3 s^4) - r^{10} (14080 R^4 + 784 R^2 s^2 + 39 s^4) - \\
& 16 r^9 (1792 R^5 + 16 R^3 s^2 + 7 R s^4) + r^8 (-32768 R^6 + 7744 R^4 s^2 + 128 R^2 s^4 - 45 s^6) - \\
& 16 r^7 (1024 R^7 - 1568 R^5 s^2 + 96 R^3 s^4 - 7 R s^6) + \\
& r^6 (25600 R^6 s^2 - 7808 R^4 s^4 + 32 R^2 s^6 - 25 s^8) + r^5 (-18944 R^5 s^4 + 512 R^3 s^6 + 88 R s^8)) / \\
& (r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4))^2 \\
& |X_{38}X_{78}|^2: \\
& \frac{R (-20 r^7 - 71 r^6 R - 24 r R^2 s^4 + R s^6 + 16 r^5 (5 R^2 + s^2) + r^4 (256 R^3 - 49 R s^2) - 4 r^3 (64 R^4 + 22 R^2 s^2 - s^4) + r^2 (144 R^3 s^2 + 7 R s^4))}{(r-R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{79}|^2: \\
& - \frac{4 r^2 (2 r^6 + 28 r^5 R - 9 R^4 s^2 - 12 R^2 s^4 + 2 s^6 + 6 r^4 (24 R^2 + s^2) + 2 r^3 (167 R^3 - 8 R s^2) + 3 r^2 (113 R^4 - 4 R^2 s^2 + 2 s^4) + 6 r (24 R^5 + R^3 s^2 - 2 R s^4))}{(2 r + 3 R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{80}|^2: - \frac{4 r^2 R (6 r^4 + 20 r^3 R + r^2 (61 R^2 - 8 s^2) + s^2 (R^2 + 2 s^2) - 4 r (4 R^3 + 7 R s^2))}{(2 r - R) (r^2 - 2 r R + s^2)^2} \\
& |X_{38}X_{81}|^2: - \frac{r^2 R (r^2 + 4 r R - 3 s^2)^2 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(-r^4 + r^3 R + 2 r^2 R^2 - 3 r R s^2 + s^4)^2}
\end{aligned}$$

$|X_{38}X_{83}|^2:$

$$\begin{aligned} & (-11 r^{14} - 456 r^{13} R - 64 r R s^{12} + s^{14} + r^2 s^{10} (1616 R^2 - 21 s^2) - r^{12} (7264 R^2 + 17 s^2) + \\ & r^{11} (-60480 R^3 + 920 R s^2) + r^4 s^6 (140864 R^4 - 15456 R^2 s^2 - 67 s^4) + \\ & r^{10} (-290560 R^4 + 21392 R^2 s^2 + 17 s^4) - 16 r^9 (50944 R^5 - 10872 R^3 s^2 + 129 R s^4) + \\ & r^8 (-1245184 R^6 + 686144 R^4 s^2 - 35008 R^2 s^4 + 19 s^6) - \\ & 16 r^7 (50176 R^7 - 83360 R^5 s^2 + 13576 R^3 s^4 - 163 R s^6) + \\ & r^6 (1025024 R^6 s^2 - 575104 R^4 s^4 + 29856 R^2 s^6 - 49 s^8) - \\ & 8 r^5 (66112 R^5 s^4 - 15984 R^3 s^6 + 141 R s^8) + r^3 (-20544 R^3 s^8 + 952 R s^{10}) \bigg) / \\ & (5 r^6 + 30 r^5 R - r^4 s^2 - 50 r R s^4 + 5 s^6 - 4 r^3 (40 R^3 - 3 R s^2) + r^2 (160 R^2 s^2 - s^4))^2 \end{aligned}$$

 $|X_{38}X_{85}|^2:$

$$\begin{aligned} & - \bigg((3 r^{10} + 72 r^9 R - s^{10} + 32 r R s^6 (2 R^2 + s^2) + r^8 (736 R^2 + 11 s^2) + 40 r^7 (104 R^3 + 3 R s^2) + \\ & 56 r^5 R (512 R^4 + 32 R^2 s^2 + s^4) + 2 r^6 (7040 R^4 + 280 R^2 s^2 + 7 s^4) + \\ & r^4 (32768 R^6 + 4032 R^4 s^2 - 320 R^2 s^4 + 6 s^6) + 8 r^3 (2048 R^7 + 448 R^5 s^2 - 144 R^3 s^4 + 5 R s^6) - \\ & r^2 (1024 R^6 s^2 + 1792 R^4 s^4 + 144 R^2 s^6 + s^8) \bigg) / \\ & (r^4 + 6 r^3 R - 32 r R^3 + 2 r^2 s^2 + 6 r R s^2 + 16 R^2 s^2 + s^4)^2 \end{aligned}$$

 $|X_{38}X_{86}|^2:$

$$\begin{aligned} & - \bigg((3 r^{10} + 48 r^9 R + 40 r R s^8 - s^{10} + r^8 (304 R^2 + 27 s^2) + 40 r^7 (24 R^3 + 7 R s^2) + 2 r^6 \\ & (768 R^4 + 752 R^2 s^2 + 31 s^4) + 8 r^5 (128 R^5 + 448 R^3 s^2 + 41 R s^4) + \\ & 2 r^4 (1504 R^4 s^2 + 728 R^2 s^4 + 27 s^6) + 8 r^3 (232 R^3 s^4 - 47 R s^6) + r^2 (-512 R^2 s^6 + 15 s^8) \bigg) / \\ & (r^4 + 2 r^3 R - 6 r R s^2 + 5 s^4 + r^2 (-8 R^2 + 6 s^2))^2 \end{aligned}$$

 $|X_{38}X_{88}|^2:$

$$\begin{aligned} & (r^2 R (-18 r^7 + 189 r^6 R + 25 R s^6 + 6 r^5 (180 R^2 + 19 s^2) - 21 r^4 (240 R^3 + 41 R s^2) - 6 r^3 \\ & (3456 R^4 - 64 R^2 s^2 + s^4) + r^2 (7056 R^3 s^2 + 191 R s^4) - 10 r (76 R^2 s^4 + s^6)) \bigg) / \\ & (3 r^4 - 21 r^3 R - 17 r R s^2 + s^4 + r^2 (30 R^2 + 4 s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{38}X_{89}|^2: & (r^2 R (-180 r^7 - 1431 r^6 R - 1525 r^2 R s^4 + 49 R s^6 + r^5 (-2808 R^2 + 804 s^2) + \\ & 3 r^4 (48 R^3 + 1217 R s^2) + 12 r^3 (226 R^2 s^2 - 77 s^4) - 28 r (28 R^2 s^4 - 5 s^6)) \bigg) / \\ & (6 r^4 - 15 r^3 R + r R s^2 - 2 s^4 + r^2 (6 R^2 + 4 s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{38}X_{99}|^2: & (-3 r^{10} - 48 r^9 R - 24 r R s^8 + s^{10} - r^8 (304 R^2 + 11 s^2) + r^7 (-960 R^3 + 152 R s^2) - \\ & 2 r^6 (768 R^4 - 576 R^2 s^2 + 7 s^4) - 8 r^5 (128 R^5 - 272 R^3 s^2 + 27 R s^4) + \\ & 2 r^4 (544 R^4 s^2 - 344 R^2 s^4 - 3 s^6) - 72 r^3 (8 R^3 s^4 - R s^6) + r^2 (160 R^2 s^6 + s^8) \bigg) / \\ & ((r^2 - 2 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))) \end{aligned}$$

$$\begin{aligned} |X_{38}X_{141}|^2: & (-5 r^{10} - 104 r^9 R - 32 r R s^8 + s^{10} - r^8 (868 R^2 + 3 s^2) - 8 r^7 (454 R^3 - 17 R s^2) + \\ & r^6 (-7616 R^4 + 1376 R^2 s^2 + 6 s^4) - 8 r^5 (800 R^5 - 578 R^3 s^2 + 19 R s^4) + \\ & 2 r^4 (2760 R^4 s^2 - 522 R^2 s^4 + s^6) + r^3 (-1984 R^3 s^4 + 88 R s^6) + r^2 (360 R^2 s^6 - s^8) \bigg) / \\ & (4 (r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4))^2 \end{aligned}$$

 $|X_{38}X_{142}|^2:$

$$\begin{aligned} & - \frac{1}{4 (r+4 R)^2 (r^2-2 r R+s^2)^2} (5 r^8 + 104 r^7 R + 3632 r^5 R^3 + 144 r R^3 s^4 - 4 R^2 s^6 + r^6 (868 R^2 + 11 s^2) + \\ & r^4 (7616 R^4 - 432 R^2 s^2 + 7 s^4) + 8 r^3 (800 R^5 - 194 R^3 s^2 + 3 R s^4) + \\ & r^2 (-1680 R^4 s^2 + 56 R^2 s^4 + s^6)) \end{aligned}$$

$$|X_{38}X_{145}|^2: \frac{9r^6 - 104r^5R - 88r^3Rs^2 + 11r^2s^4 - 16rRs^4 + s^6 + r^4(16R^2 + 19s^2)}{(r^2 - 2rRs^2)^2}$$

$$|X_{38}X_{190}|^2: \frac{(5r^{10} + 16r^9R - 40rRs^8 + s^{10} + r^8(-688R^2 + 5s^2) - 8r^7(824R^3 - 29Rs^2) - 8r^5R(3200R^4 - 1552R^2s^2 + s^4) - 2r^6(11008R^4 - 960R^2s^2 + 7s^4) + 2r^4(8480R^4s^2 - 1336R^2s^4 - 11s^6) - 8r^3(568R^3s^4 - 31Rs^6) + r^2(608R^2s^6 - 7s^8))}{(3r^4 + 6r^3R + 14rRs^2 - s^4 + r^2(-24R^2 + 2s^2))^2}$$

$$|X_{38}X_{192}|^2: \frac{(r^{10} + 16r^9R - 24rRs^8 + s^{10} + r^8(32R^2 + 5s^2) - 8r^7(64R^3 - 7Rs^2) - 2r^6(1408R^4 + 136R^2s^2 - 5s^4) - 8r^5(512R^5 - 80R^3s^2 - 5Rs^4) + 2r^4(1152R^4s^2 - 64R^2s^4 + 5s^6) - 8r^3(112R^3s^4 + 3Rs^6) + r^2(176R^2s^6 + 5s^8))}{(r^4 + 2r^3R + 2rRs^2 + s^4 + r^2(-8R^2 + 2s^2))^2}$$

$$|X_{38}X_{194}|^2: \frac{(r^{14} + 24r^{13}R + 72r^{11}Rs^2 - 16rRs^{12} + s^{14} + 8r^3Rs^8(144R^2 - 11s^2) + r^{12}(176R^2 + 7s^2) + r^{10}(-6400R^4 + 128R^2s^2 + 21s^4) - 32r^9(1088R^5 - 60R^3s^2 - Rs^4) + r^8(-77824R^6 + 23040R^4s^2 + 288R^2s^4 + 35s^6) - 16r^7(4096R^7 - 4736R^5s^2 + 328R^3s^4 + 7Rs^6) + r^6(69632R^6s^2 - 24832R^4s^4 + 832R^2s^6 + 35s^8) - 8r^5(2560R^5s^4 - 272R^3s^6 + 21Rs^8) + r^4(-1024R^4s^6 + 432R^2s^8 + 21s^{10}) + r^2(-64R^2s^{10} + 7s^{12}))}{(r^6 + 6r^5R + 3r^4s^2 - 10rRs^4 + s^6 - 4r^3R(8R^2 + s^2) + r^2(32R^2s^2 + 3s^4))^2}$$

$$|X_{38}X_{200}|^2: \frac{4R(4r^7 + 16r^6R + 24rR^2s^4 - Rs^6 - 6r^5(8R^2 + s^2) - 8r^4(16R^3 - 3Rs^2) + r^3(256R^4 + 48R^2s^2 - 2s^4) - r^2(144R^3s^2 + 5Rs^4))}{(r - 2R)^2(r^2 - 2rRs^2)^2}$$

$$|X_{38}X_{210}|^2: \frac{11r^6R + 4Rs^6 + 2rs^4(-52R^2 + s^2) + 2r^5(-6R^2 + s^2) - 6r^4(104R^3 + 5Rs^2) + 4r^3(-400R^4 + 69R^2s^2 + s^4) + 37r^2(20R^3s^2 - Rs^4)}{9R(r^2 - 2rRs^2)^2}$$

$$|X_{38}X_{213}|^2: \frac{-(4r^2R(2r^{11} + 49r^{10}R - 4Rs^{10} + r^9(500R^2 - 6s^2) + 80r^8(34R^3 - Rs^2) + 4r^7(2080R^4 - 99R^2s^2 - s^4) + 2r^3s^4(-784R^4 + 62R^2s^2 + s^4) + 2r^6(6784R^5 - 402R^3s^2 - 53Rs^4) + 4r^5(2304R^6 - 56R^4s^2 - 179R^2s^4 + 3s^6) + 4r^4(240R^5s^2 - 490R^3s^4 + 23Rs^6) + r^2(-36R^3s^6 + 65Rs^8) + r(72R^2s^8 - 6s^{10}))}{(r^6 + 6r^5R + r^4s^2 + 6rRs^4 - s^6 - 4r^3(8R^3 - 3Rs^2) + r^2(8R^2s^2 - s^4))^2}$$

$$|X_{38}X_{238}|^2: \frac{-(4r^2R(28r^7 + 391r^6R - 9Rs^6 + 4r^5(510R^2 - 13s^2) + 5r^4(944R^3 - 111Rs^2) + 4r^3(1024R^4 - 486R^2s^2 + 9s^4) + r^2(-1792R^3s^2 + 261Rs^4) + 12r(20R^2s^4 - s^6)))}{(3r^4 + 6r^3R + 14rRs^2 - s^4 + r^2(-24R^2 + 2s^2))^2}$$

$$|X_{38}X_{239}|^2: \frac{(-7r^{10} - 176r^9R - 8rRs^8 + s^{10} - r^8(1696R^2 + 11s^2) - 8r^7(992R^3 - 25Rs^2) + r^6(-18176R^4 + 2448R^2s^2 + 10s^4) - 8r^5(2048R^5 - 896R^3s^2 + 29Rs^4) + r^4(5120R^4s^2 - 384R^2s^4 + 26s^6) + 8r^3(64R^3s^4 - 13Rs^6) + r^2(-176R^2s^6 + 13s^8))}{(3r^4 + 6r^3R + 14rRs^2 - s^4 + r^2(-24R^2 + 2s^2))^2}$$

$$|X_{38}X_{244}|^2: \frac{-16r^2R^2(7r^6 + 120r^5R + 32rRs^4 - s^6 + 5r^2s^2(-64R^2 + s^2) + 13r^4(48R^2 + s^2) + 8r^3(128R^3 - 17Rs^2))}{(r^4 - 16r^3R - 16rRs^2 + s^4 + 2r^2(14R^2 + s^2))^2}$$

$$|X_{38}X_{304}|^2:$$

$$\begin{aligned} & - \left((3r^{14} + 72r^{13}R + 32rRs^{12} - s^{14} + 88r^3Rs^8(24R^2 - s^2) + r^2s^{10}(-368R^2 + s^2) + \right. \\ & \quad 40r^{11}R(104R^2 + s^2) + r^{12}(736R^2 + 5s^2) + r^{10}(14080R^4 + 336R^2s^2 - 5s^4) + \\ & \quad 16r^9R(1792R^4 + 208R^2s^2 + s^4) + r^4s^6(-5184R^4 + 928R^2s^2 + 7s^4) + \\ & \quad r^8(32768R^6 + 15808R^4s^2 - 896R^2s^4 - 11s^6) + \\ & \quad 16r^7(1024R^7 + 2016R^5s^2 - 312R^3s^4 + 3Rs^6) + \\ & \quad \left. r^6(23552R^6s^2 - 5760R^4s^4 + 800R^2s^6 + s^8) - 8r^5(64R^5s^4 + 320R^3s^6 + 15Rs^8) \right) / \\ & (r^6 + 6r^5R + r^4s^2 - r^2s^4 + 10rRs^4 - s^6 + 16r^3R(-2R^2 + s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{38}X_{306}|^2: & \quad (-7r^{10} - 148r^9R - 28rRs^8 + s^{10} - r^8(1132R^2 + 7s^2) - 8r^7(500R^3 - 17Rs^2) + \\ & \quad r^6(-6592R^4 + 1212R^2s^2 + 6s^4) - 16r^5(256R^5 - 218R^3s^2 + 9Rs^4) + \\ & \quad r^4(3328R^4s^2 - 788R^2s^4 + 6s^6) - 8r^3(160R^3s^4 - 7Rs^6) + r^2(260R^2s^6 + s^8)) / \\ & (3r^4 + 8rRs^2 - s^4 + 2r^2(-6R^2 + s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{38}X_{312}|^2: & \quad (-3r^{10} - 8r^9R - 32rRs^8 + s^{10} + r^8(192R^2 - 11s^2) + 72r^7R(8R^2 + s^2) - \\ & \quad 2r^6(1408R^4 + 264R^2s^2 + 7s^4) + r^5(-9216R^5 + 1600R^3s^2 + 136Rs^4) + \\ & \quad r^4(6720R^4s^2 - 352R^2s^4 - 6s^6) - 8r^3(272R^3s^4 - 3Rs^6) + r^2(368R^2s^6 + s^8)) / \\ & (r^4 - 10r^3R - 10rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{38}X_{319}|^2: & \quad (-3r^{10} - 48r^9R - 216rRs^8 + 9s^{10} - r^8(304R^2 + 3s^2) + r^7(-960R^3 + 88Rs^2) + \\ & \quad r^6(-1536R^4 + 672R^2s^2 + 18s^4) - 8r^5(128R^5 - 288R^3s^2 + 35Rs^4) + \\ & \quad r^4(3136R^4s^2 - 496R^2s^4 + 42s^6) - 24r^3(136R^3s^4 + 5Rs^6) + 3r^2(448R^2s^6 + 11s^8)) / \\ & (r^4 + 2r^3R + 10rRs^2 - 3s^4 - 2r^2(4R^2 + s^2))^2 \end{aligned}$$

$$|X_{38}X_{320}|^2:$$

$$\begin{aligned} & (-27r^{10} - 432r^9R - 24rRs^8 + s^{10} + 24r^7R(-360R^2 + s^2) - 3r^8(912R^2 + 25s^2) - \\ & \quad 2r^6(6912R^4 - 336R^2s^2 + 31s^4) - 8r^5(1152R^5 - 288R^3s^2 + 11Rs^4) + \\ & \quad 6r^4(608R^4s^2 - 40R^2s^4 - s^6) - 8r^3(152R^3s^4 + 7Rs^6) + 3r^2(64R^2s^6 + 3s^8)) / \\ & (3r^4 + 6r^3R + 14rRs^2 - s^4 + r^2(-24R^2 + 2s^2))^2 \end{aligned}$$

$$|X_{38}X_{321}|^2: \quad \frac{-3r^6 - 40r^5R - 24rRs^4 + s^6 - r^4(176R^2 + 5s^2) - 64r^3(4R^3 - Rs^2) + r^2(144R^2s^2 - s^4)}{(r^2 - 2rRs^2)^2}$$

$$|X_{38}X_{345}|^2:$$

$$\begin{aligned} & (-11r^{10} - 296r^9R - 32rRs^8 + s^{10} - r^8(2496R^2 + 7s^2) + r^7(-9152R^3 + 360Rs^2) + \\ & \quad r^6(-15104R^4 + 3024R^2s^2 + 14s^4) - 8r^5(1152R^5 - 1000R^3s^2 + 39Rs^4) + \\ & \quad 6r^4(1120R^4s^2 - 288R^2s^4 + s^6) - 8r^3(272R^3s^4 - 19Rs^6) + r^2(368R^2s^6 - 3s^8)) / \\ & (-5r^4 + 2r^3R - 10rRs^2 + s^4 - 4r^2(-4R^2 + s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{38}X_{346}|^2: & \quad (-32r^9R - 32rRs^8 + s^{10} + r^8(-528R^2 + 4s^2) + r^7(-3264R^3 + 80Rs^2) + \\ & \quad r^6(-8960R^4 + 928R^2s^2 + 5s^4) - 8r^5(1152R^5 - 600R^3s^2 + 7Rs^4) + \\ & \quad r^4(6720R^4s^2 - 1040R^2s^4 - s^6) + r^3(-2176R^3s^4 + 88Rs^6) + r^2(368R^2s^6 - s^8)) / \\ & (2r^4 + 4r^3R + 10rRs^2 - s^4 + r^2(-16R^2 + s^2))^2 \end{aligned}$$

$|X_{38}X_{350}|^2$:

$$\begin{aligned} & (-3 r^{14} - 72 r^{13} R - 32 r R s^{12} + s^{14} - 8 r^3 R s^8 (376 R^2 + s^2) + r^2 s^{10} (400 R^2 + 3 s^2) - \\ & r^{12} (736 R^2 + 17 s^2) - 8 r^{11} (520 R^3 + 21 R s^2) + r^4 s^6 (13 376 R^4 - 352 R^2 s^2 - 3 s^4) + \\ & 16 r^9 R (-1792 R^4 + 264 R^2 s^2 + s^4) - r^{10} (14 080 R^4 + 176 R^2 s^2 + 39 s^4) + \\ & r^8 (-32 768 R^6 + 23 616 R^4 s^2 + 704 R^2 s^4 - 45 s^6) - \\ & 16 r^7 (1024 R^7 - 3232 R^5 s^2 + 192 R^3 s^4 - 19 R s^6) + \\ & r^6 (41 984 R^6 s^2 - 21 632 R^4 s^4 - 608 R^2 s^6 - 25 s^8) - 8 r^5 (4544 R^5 s^4 - 496 R^3 s^6 - 27 R s^8) \Big) / \\ & (r^6 + 6 r^5 R + 3 r^4 s^2 - 18 r R s^4 + s^6 - 4 r^3 (8 R^3 + 3 R s^2) + 3 r^2 (16 R^2 s^2 + s^4))^2 \end{aligned}$$

$|X_{39}X_{40}|^2$:

$$\begin{aligned} & (4 R (r^8 R + R s^8 + r^7 (16 R^2 - s^2) + r^6 (96 R^3 - 7 R s^2) + r^5 (256 R^4 - 24 R^2 s^2 - 3 s^4) + \\ & 16 r^4 R (16 R^4 - 7 R^2 s^2 + s^4) - r^3 (256 R^4 s^2 + 8 R^2 s^4 + 3 s^6) + r^2 (96 R^3 s^4 + 9 R s^6) - \\ & r (16 R^2 s^6 + s^8)) \Big) / (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \end{aligned}$$

$|X_{39}X_{41}|^2$:

$$\begin{aligned} & (4 r^2 R^2 s^4 (15 r^8 + 236 r^7 R + 4 R^2 s^6 - s^8 + 4 r^6 (344 R^2 - 29 s^2) + 108 r^5 (32 R^3 - 9 R s^2) + \\ & 2 r^4 (1408 R^4 - 1086 R^2 s^2 + 53 s^4) - 4 r^3 (256 R^5 + 104 R^3 s^2 - 89 R s^4) + \\ & 4 r^2 (144 R^4 s^2 - 38 R^2 s^4 - 5 s^6) + r (-96 R^3 s^4 + 28 R s^6)) \Big) / \\ & (r^7 + 16 r^6 R - 2 R s^6 + r^5 (96 R^2 - s^2) + 2 r^4 (128 R^3 - 9 R s^2) + \\ & r^3 (256 R^4 - 96 R^2 s^2 - 5 s^4) - 4 r^2 (40 R^3 s^2 - 7 R s^4) + r (32 R^2 s^4 - 3 s^6))^2 \end{aligned}$$

$|X_{39}X_{42}|^2$:

$$\begin{aligned} & - \Big((4 r^4 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 + s^8 + 20 r^6 (8 R^2 + s^2) + 4 r^5 (160 R^3 + 51 R s^2) + 2 r^4 \\ & (640 R^4 + 318 R^2 s^2 + 19 s^4) + 4 r^3 (256 R^5 + 104 R^3 s^2 + 39 R s^4) - \\ & 4 r^2 (144 R^4 s^2 + 26 R^2 s^4 - 5 s^6) + 4 r (24 R^3 s^4 - 7 R s^6)) \Big) / \\ & (r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$|X_{39}X_{43}|^2$:

$$\begin{aligned} & (4 r^2 R (r^{11} + 20 r^{10} R + R s^{10} + 10 r^5 s^4 (-20 R^2 + s^2) + 5 r^9 (32 R^2 + s^2) + r^8 (640 R^3 + 33 R s^2) + \\ & 2 r^7 (640 R^4 + 12 R^2 s^2 + 5 s^4) + 4 r^6 (256 R^5 - 28 R^3 s^2 - R s^4) + 26 r^4 (16 R^3 s^4 - R s^6) + \\ & r^3 (-256 R^4 s^4 - 88 R^2 s^6 + 5 s^8) + 8 r^2 (18 R^3 s^6 - R s^8) + r (-24 R^2 s^8 + s^{10})) \Big) / \\ & (r^6 - 16 r R s^4 + s^6 - 16 r^3 R (8 R^2 + s^2) + r^4 (-48 R^2 + 3 s^2) + r^2 (80 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$|X_{39}X_{44}|^2$:

$$\begin{aligned} & (16 r^2 R s^4 (2 r^7 + 29 r^6 R + R s^6 + 6 r^5 (20 R^2 + s^2) + r^4 (80 R^3 - 69 R s^2) + \\ & r^3 (-256 R^4 + 96 R^2 s^2 + 6 s^4) + 3 r^2 (48 R^3 s^2 - 11 R s^4) + r (-24 R^2 s^4 + 2 s^6)) \Big) / \\ & (3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4))^2 \end{aligned}$$

$|X_{39}X_{45}|^2$:

$$\begin{aligned} & (16 r^2 R s^4 (2 r^7 + 17 r^6 R + 4 R s^6 + 6 r^5 (-4 R^2 + s^2) - 2 r^4 (248 R^3 + 21 R s^2) + \\ & r^3 (-1024 R^4 + 312 R^2 s^2 + 6 s^4) + r^2 (576 R^3 s^2 - 39 R s^4) + r (-96 R^2 s^4 + 2 s^6)) \Big) / \\ & (3 r^6 + 36 r^5 R + 4 r R s^4 + s^6 + 8 r^3 R (24 R^2 + s^2) + r^4 (144 R^2 + 7 s^2) + r^2 (-80 R^2 s^2 + 5 s^4))^2 \end{aligned}$$

$|X_{39}X_{46}|^2$:

$$\begin{aligned} & - \Big((4 r^2 R (-R^3 s^6 + r^7 (R^2 + s^2) + r^6 (16 R^3 + 11 R s^2) + 3 r^5 (32 R^4 + 11 R^2 s^2 + s^4) + r^4 \\ & (256 R^5 - 17 R^3 s^2 - 10 R s^4) + r^3 (256 R^6 - 184 R^4 s^2 + 7 R^2 s^4 + 3 s^6) + \\ & r^2 (-144 R^5 s^2 + 62 R^3 s^4 - 5 R s^6) + r (24 R^4 s^4 - 9 R^2 s^6 + s^8)) \Big) / \\ & ((r - R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \end{aligned}$$

$$|X_{39}X_{55}|^2:$$

$$\begin{aligned} & - \left((r^2 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 - 3 s^8 + 20 r^6 (8 R^2 + s^2) + 4 r^5 (160 R^3 + 51 R s^2) + 2 r^4 \right. \\ & \quad (640 R^4 + 318 R^2 s^2 - 15 s^4) + 4 r^3 (256 R^5 + 104 R^3 s^2 - 49 R s^4) - \\ & \quad \left. 4 r^2 (144 R^4 s^2 + 106 R^2 s^4 - 3 s^6) + r (96 R^3 s^4 + 68 R s^6) \right) \Big/ \\ & \quad \left((r+R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$\begin{aligned} |X_{39}X_{56}|^2: & \quad (r^2 R^2 (3 r^8 + 44 r^7 R + 4 R^2 s^6 - s^8 + 4 r^6 (56 R^2 - 3 s^2) + 12 r^5 (32 R^3 - 9 R s^2) + \\ & \quad r^4 (-256 R^4 - 252 R^2 s^2 + 30 s^4) + r^3 (-1024 R^5 + 96 R^3 s^2 + 68 R s^4) + \\ & \quad 4 r^2 (144 R^4 s^2 - 22 R^2 s^4 - 5 s^6) + r (-96 R^3 s^4 + 28 R s^6) \Big/ \\ & \quad \left((r-R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{57}|^2:$$

$$\begin{aligned} & - \left((4 r^2 R (r^8 R - 4 R^3 s^6 + R s^8 + r^7 (20 R^2 + s^2) + 5 r^6 (32 R^3 + 3 R s^2) - r^2 R s^2 (576 R^4 - \right. \\ & \quad \left. 184 R^2 s^2 + s^4) + r^5 (640 R^4 + 48 R^2 s^2 + 3 s^4) + 4 r^4 (320 R^5 - 29 R^3 s^2 - R s^4) + \right. \\ & \quad \left. r^3 (1024 R^6 - 672 R^4 s^2 + 12 R^2 s^4 + 3 s^6) + r (96 R^4 s^4 - 32 R^2 s^6 + s^8) \right) \Big/ \\ & \quad \left((r-2R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{58}|^2:$$

$$\frac{4 r^4 R^2 (r^2 + 4 r R - 3 s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}{(3 r^6 + 28 r^5 R + 12 r R s^4 - s^6 + 5 r^4 (16 R^2 + s^2) + 8 r^3 (8 R^3 - 3 R s^2) + r^2 (-48 R^2 s^2 + s^4))^2}$$

$$|X_{39}X_{63}|^2:$$

$$\begin{aligned} & - \left((R (r^{10} R - R s^{10} + 2 r^9 (10 R^2 + s^2) + r^8 (160 R^3 + 27 R s^2) + 4 r^7 (160 R^4 + 20 R^2 s^2 + s^4) + \right. \\ & \quad 2 r^6 (640 R^5 - 122 R^3 s^2 - 17 R s^4) + 32 r^5 (32 R^6 - 45 R^4 s^2 - R^2 s^4) + \\ & \quad r^4 (-1600 R^5 s^2 + 760 R^3 s^4 + 46 R s^6) + 4 r^3 (232 R^4 s^4 - 64 R^2 s^6 - s^8) + \\ & \quad \left. r^2 (-244 R^3 s^6 + 41 R s^8) + r (28 R^2 s^8 - 2 s^{10}) \right) \Big/ \\ & \quad \left((r+R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$\begin{aligned} |X_{39}X_{65}|^2: & \quad - \left((r^2 (2 r^9 + 37 r^8 R - 4 R^3 s^6 + R s^8 + 48 r^6 R (22 R^2 + s^2) + 4 r^7 (69 R^2 + 2 s^2) + \right. \\ & \quad 4 r^5 (544 R^4 - 15 R^2 s^2 + 3 s^4) + 2 r^4 (1152 R^5 - 386 R^3 s^2 - 7 R s^4) + \\ & \quad 4 r^3 (256 R^6 - 312 R^4 s^2 + 35 R^2 s^4 + 2 s^6) - 8 r^2 (72 R^5 s^2 - 35 R^3 s^4 + 3 R s^6) + \\ & \quad \left. 2 r (48 R^4 s^4 - 18 R^2 s^6 + s^8) \right) \Big/ \left(R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{69}|^2:$$

$$\begin{aligned} & - \left((r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} - 3 r^2 s^{10} (76 R^2 + 3 s^2) + r^{12} (336 R^2 + 9 s^2) + 8 r^3 R s^8 \right. \\ & \quad (64 R^2 + 19 s^2) + 8 r^{11} (280 R^3 + 19 R s^2) + r^4 s^6 (1408 R^4 - 752 R^2 s^2 - 21 s^4) + \\ & \quad r^{10} (8960 R^4 + 988 R^2 s^2 + 21 s^4) + 4 r^9 (5376 R^5 + 752 R^3 s^2 + 25 R s^4) + r^8 \\ & \quad (28672 R^6 + 3968 R^4 s^2 - 352 R^2 s^4 + 13 s^6) + 16 r^7 (1024 R^7 + 64 R^5 s^2 - 164 R^3 s^4 - 3 R s^6) - \\ & \quad \left. r^6 (1024 R^6 s^2 + 5376 R^4 s^4 - 776 R^2 s^6 + 13 s^8) + r^5 (-6144 R^5 s^4 + 1984 R^3 s^6 + 100 R s^8) \right) \Big/ \\ & \quad \left(r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{39}X_{72}|^2:$$

$$\begin{aligned} & - \left(r^{11} - 20 r^{10} R + R s^{10} - r^9 (164 R^2 + 3 s^2) - r^8 (704 R^3 + 19 R s^2) + r^6 (-2048 R^5 + 756 R^3 s^2) - \right. \\ & \quad 2 r^7 (832 R^4 - 32 R^2 s^2 + s^4) - 2 r^5 (512 R^6 - 976 R^4 s^2 + 56 R^2 s^4 - s^6) + \\ & \quad 2 r^4 (800 R^5 s^2 - 332 R^3 s^4 - 11 R s^6) + r^3 (-928 R^4 s^4 + 144 R^2 s^6 + 3 s^8) + \\ & \quad \left. 4 r^2 (61 R^3 s^6 - 5 R s^8) + r (-28 R^2 s^8 + s^{10}) \right) \Big/ \left(R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{75}|^2:$$

$$\begin{aligned} & - \left((r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} + 56 r^3 R s^8 (24 R^2 + s^2) + 56 r^{11} R (40 R^2 + s^2) - 5 \right. \\ & \quad r^2 s^{10} (52 R^2 + s^2) + r^{12} (336 R^2 + 5 s^2) + r^{10} (8960 R^4 + 28 R^2 s^2 + 9 s^4) - \\ & \quad r^4 s^6 (4736 R^4 + 32 R^2 s^2 + 9 s^4) + 4 r^9 (5376 R^5 - 528 R^3 s^2 - 7 R s^4) + \\ & \quad r^8 (28672 R^6 - 11392 R^4 s^2 - 464 R^2 s^4 + 5 s^6) + \\ & \quad 16 r^7 (1024 R^7 - 1472 R^5 s^2 + 40 R^3 s^4 - 7 R s^6) + \\ & \quad \left. r^6 (-17408 R^6 s^2 + 8704 R^4 s^4 + 72 R^2 s^6 - 5 s^8) + 4 r^5 (2816 R^5 s^4 - 464 R^3 s^6 - 7 R s^8) \right) / \\ & \quad (r^6 + 12 r^5 R - 4 r R s^4 + s^6 + 8 r^3 R (8 R^2 + s^2) + 3 r^4 (16 R^2 + s^2) + r^2 (-16 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$$|X_{39}X_{76}|^2: \quad \begin{aligned} & (-r^{10} - 20 r^9 R - 20 r R s^8 + s^{10} - 16 r^7 R (40 R^2 + s^2) - r^8 (160 R^2 + 3 s^2) - \\ & 2 r^6 (640 R^4 + 6 R^2 s^2 + s^4) - 8 r^5 (128 R^5 + 12 R^3 s^2 - R s^4) + r^4 (-448 R^4 s^2 + 264 R^2 s^4 + 2 s^6) + \\ & 16 r^3 (14 R^3 s^4 - R s^6) + r^2 (52 R^2 s^6 + 3 s^8)) / (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \end{aligned}$$

$$|X_{39}X_{78}|^2:$$

$$\begin{aligned} & - \left((R (2 r^{11} + 37 r^{10} R + 28 r R^2 s^8 - R s^{10} + 4 r^9 (69 R^2 + s^2) + r^8 (1056 R^3 + 43 R s^2) + \right. \\ & \quad 16 r^7 (136 R^4 + 5 R^2 s^2) + r^6 (2304 R^5 - 500 R^3 s^2 - 26 R s^4) + \\ & \quad 4 r^5 (256 R^6 - 488 R^4 s^2 - 8 R^2 s^4 - s^6) + r^4 (-1600 R^5 s^2 + 376 R^3 s^4 + 30 R s^6) + \\ & \quad \left. r^3 (928 R^4 s^4 - 2 s^8) - r^2 (244 R^3 s^6 + 3 R s^8) \right) / \\ & \quad \left((r - R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{79}|^2:$$

$$\begin{aligned} & - \left((4 r^2 (r^9 R - 9 R^4 s^6 - 6 R^2 s^8 + 2 s^{10} + 2 r^8 (11 R^2 + s^2) + r^7 (201 R^3 + 32 R s^2) + 8 r^6 \right. \\ & \quad (122 R^4 + 24 R^2 s^2 + s^4) + r^5 (2656 R^5 + 491 R^3 s^2 + 26 R s^4) + r^4 \\ & \quad (3840 R^6 + 263 R^4 s^2 - 200 R^2 s^4 + 12 s^6) + r^3 (2304 R^7 - 984 R^5 s^2 - 677 R^3 s^4 - 40 R s^6) - \\ & \quad 2 r^2 (648 R^6 s^2 + 81 R^4 s^4 - 100 R^2 s^6 - 4 s^8) + r (216 R^5 s^4 + 57 R^3 s^6 - 35 R s^8)) / \\ & \quad \left((2 r + 3 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{80}|^2:$$

$$\begin{aligned} & (4 r^2 (r^9 + 18 r^8 R - R^3 s^6 + r^7 (129 R^2 + 4 s^2) + r^6 (464 R^3 + 22 R s^2) + r^5 (864 R^4 - 39 R^2 s^2 + 6 s^4) + \\ & \quad r^4 (768 R^5 - 353 R^3 s^2 - 10 R s^4) + r^3 (256 R^6 - 440 R^4 s^2 + 111 R^2 s^4 + 4 s^6) - \\ & \quad 2 r^2 (72 R^5 s^2 - 47 R^3 s^4 + 7 R s^6) + r (24 R^4 s^4 - 9 R^2 s^6 + s^8)) / \\ & \quad \left((2 r - R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{39}X_{81}|^2:$$

$$\begin{aligned} & - \left((r^2 R (r^{10} R - R s^{10} + 4 r^9 (5 R^2 + s^2) + 4 r s^8 (5 R^2 + s^2) + r^8 (160 R^3 + 67 R s^2) + 16 \right. \\ & \quad r^7 (40 R^4 + 25 R^2 s^2 + s^4) + 2 r^6 (640 R^5 + 518 R^3 s^2 + 25 R s^4) + \\ & \quad 8 r^5 (128 R^6 + 140 R^4 s^2 - R^2 s^4 + 3 s^6) + 2 r^4 (224 R^5 s^2 - 4 R^3 s^4 + 79 R s^6) - \\ & \quad 16 r^3 (14 R^4 s^4 - 9 R^2 s^6 - s^8) - r^2 (52 R^3 s^6 + 83 R s^8)) / \\ & \quad \left((r^6 + 9 r^5 R + 9 r R s^4 - s^6 + r^4 (24 R^2 + s^2) + 2 r^3 (8 R^3 - 7 R s^2) - r^2 (24 R^2 s^2 + s^4))^2 \right) \end{aligned}$$

$$|X_{39}X_{83}|^2: \quad \begin{aligned} & (-r^{18} - 36 r^{17} R - 36 r R s^{16} + s^{18} - 96 r^3 R s^{12} (29 R^2 - 3 s^2) + 9 r^{16} (-64 R^2 + s^2) - \\ & 9 r^2 s^{14} (-52 R^2 + s^2) - 96 r^{15} (56 R^3 - 3 R s^2) - 4 r^4 s^{10} (-1584 R^4 + 578 R^2 s^2 + 15 s^4) + \\ & 16 r^5 R s^8 (576 R^4 + 134 R^2 s^2 + 57 s^4) + r^{14} (-32 256 R^4 + 3924 R^2 s^2 + 60 s^4) - \\ & 48 r^{13} (2688 R^5 - 618 R^3 s^2 - 19 R s^4) + 32 r^7 R s^4 (2304 R^6 - 5408 R^4 s^2 + 1194 R^2 s^4 + 15 s^6) + \\ & 4 r^{12} (-86 016 R^6 + 33 840 R^4 s^2 + 1246 R^2 s^4 + 29 s^6) - \\ & 4 r^6 s^6 (17 664 R^6 - 11 328 R^4 s^2 + 1669 R^2 s^4 + 29 s^6) - \\ & 32 r^{11} (18 432 R^7 - 11 808 R^5 s^2 - 341 R^3 s^4 - 15 R s^6) + \\ & 2 r^8 s^2 (73 728 R^8 + 35 840 R^6 s^2 - 60 864 R^4 s^4 + 3624 R^2 s^6 - 33 s^8) + \\ & r^{10} (-589 824 R^8 + 617 472 R^6 s^2 + 6912 R^4 s^4 - 4756 R^2 s^6 + 66 s^8) - \\ & 8 r^9 (32 768 R^9 - 64 512 R^7 s^2 - 1664 R^5 s^4 + 5000 R^3 s^6 + 27 R s^8) \Big) / \\ & (5 r^8 + 80 r^7 R - 80 r R s^6 + 5 s^8 + 4 r^6 (120 R^2 + s^2) + 16 r^5 (80 R^3 - 3 R s^2) + \\ & 2 r^4 (640 R^4 - 288 R^2 s^2 - s^4) - 16 r^3 (80 R^3 s^2 - 3 R s^4) + 4 r^2 (120 R^2 s^4 + s^6) \Big)^2 \end{aligned}$$

$$|X_{39}X_{85}|^2: \quad \begin{aligned} & - \Big((r^{14} + 36 r^{13} R - s^{14} + r^{12} (576 R^2 + 5 s^2) + 8 r^{11} (672 R^3 + 13 R s^2) + \\ & r^{10} (32 256 R^4 + 780 R^2 s^2 + 9 s^4) + 4 r^9 (32 256 R^5 + 424 R^3 s^2 + 23 R s^4) + r^8 \\ & (344 064 R^6 - 9920 R^4 s^2 + 208 R^2 s^4 + 5 s^6) - r^2 s^6 (1024 R^6 - 1664 R^4 s^2 + 404 R^2 s^4 + 5 s^6) + \\ & 8 r^3 R s^4 (3072 R^6 - 1920 R^4 s^2 + 260 R^2 s^4 + 13 s^6) + \\ & 16 r^7 (36 864 R^7 - 4800 R^5 s^2 + 14 R^3 s^4 + 3 R s^6) + \\ & r^6 (589 824 R^8 - 216 064 R^6 s^2 + 7424 R^4 s^4 - 24 R^2 s^6 - 5 s^8) - \\ & r^4 s^2 (147 456 R^8 - 69 632 R^6 s^2 + 10 176 R^4 s^4 + 432 R^2 s^6 + 9 s^8) + 4 r^5 \\ & (65 536 R^9 - 71 680 R^7 s^2 + 10 240 R^5 s^4 - 536 R^3 s^6 + 23 R s^8) + r (-64 R^3 s^{10} + 36 R s^{12}) \Big) / \\ & (r^6 + 16 r^5 R - 128 r R^3 s^2 + 16 R^2 s^4 + s^6 + 16 r^3 R (16 R^2 + s^2) + \\ & 3 r^4 (32 R^2 + s^2) + r^2 (256 R^4 - 16 R^2 s^2 + 3 s^4) \Big)^2 \end{aligned}$$

$$|X_{39}X_{86}|^2: \quad \begin{aligned} & - \Big((r^{14} + 28 r^{13} R + 12 r R s^{12} - s^{14} + r^2 s^{10} (92 R^2 + 3 s^2) - 8 r^3 R s^8 (40 R^2 + 9 s^2) + r^{12} \\ & (336 R^2 + 13 s^2) + 8 r^{11} (280 R^3 + 31 R s^2) + r^4 s^6 (-2176 R^4 - 704 R^2 s^2 + 31 s^4) + \\ & r^{10} (8960 R^4 + 1948 R^2 s^2 + 49 s^4) + 4 r^9 (5376 R^5 + 2032 R^3 s^2 + 117 R s^4) + \\ & r^8 (28 672 R^6 + 19 328 R^4 s^2 + 1488 R^2 s^4 + 85 s^6) + \\ & 16 r^7 (1024 R^7 + 1600 R^5 s^2 + 128 R^3 s^4 + 13 R s^6) + \\ & r^6 (15 360 R^6 s^2 + 2048 R^4 s^4 + 104 R^2 s^6 + 75 s^8) + 4 r^5 (256 R^5 s^4 - 272 R^3 s^6 - 31 R s^8) \Big) / \\ & (r^6 + 12 r^5 R - 36 r R s^4 + 5 s^6 + r^4 (48 R^2 + 7 s^2) + 8 r^3 (8 R^3 + 5 R s^2) + r^2 (48 R^2 s^2 + 11 s^4) \Big)^2 \end{aligned}$$

$$|X_{39}X_{88}|^2: \quad \begin{aligned} & - \Big((r^2 R (81 r^{10} R - R s^{10} + 4 r s^8 (-3 R^2 + s^2) + 36 r^9 (45 R^2 + s^2) + 9 r^8 (1440 R^3 + 59 R s^2) + \\ & 16 r^7 (3240 R^4 + 9 R^2 s^2 + 7 s^4) + 2 r^6 (51 840 R^5 - 8730 R^3 s^2 - 127 R s^4) + \\ & 24 r^5 (3456 R^6 - 2364 R^4 s^2 + 97 R^2 s^4 + 5 s^6) + r^4 (-37 440 R^5 s^2 + 9592 R^3 s^4 - 498 R s^6) + \\ & 16 r^3 (178 R^4 s^4 - 51 R^2 s^6 + 3 s^8) + r^2 (396 R^3 s^6 - 51 R s^8) \Big) \Big) / \\ & (3 r^6 + 9 r^5 R - 23 r R s^4 + s^6 + r^4 (-72 R^2 + 7 s^2) - 2 r^3 (120 R^3 + 23 R s^2) + \\ & r^2 (136 R^2 s^2 + 5 s^4) \Big)^2 \end{aligned}$$

$$|X_{39}X_{89}|^2:$$

$$\begin{aligned} & - \left((r^2 R (81 r^{10} R - R s^{10} + 4 r s^8 (-3 R^2 + 4 s^2) + 36 r^9 (45 R^2 + 4 s^2) + 9 r^8 (1440 R^3 + 251 R s^2) + \right. \\ & \quad 16 r^7 (3240 R^4 + 657 R^2 s^2 + 28 s^4) + 2 r^6 (51840 R^5 + 5094 R^3 s^2 - 55 R s^4) + 24 r^5 \\ & \quad (3456 R^6 - 1212 R^4 s^2 - 95 R^2 s^4 + 20 s^6) + r^4 (-37440 R^5 s^2 + 10360 R^3 s^4 + 1518 R s^6) + \\ & \quad 16 r^3 (178 R^4 s^4 - 123 R^2 s^6 + 12 s^8) + 3 r^2 (132 R^3 s^6 - 97 R s^8) \left. \right) / \\ & (6 r^6 + 45 r^5 R + 13 r R s^4 - 2 s^6 + 2 r^4 (36 R^2 + 5 s^2) - 2 r^3 (24 R^3 + 35 R s^2) + \\ & \quad r^2 (-8 R^2 s^2 + 2 s^4))^2 \end{aligned}$$

$$|X_{39}X_{99}|^2:$$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + r^2 s^{10} (228 R^2 + 5 s^2) - r^{12} (336 R^2 + 5 s^2) - \\ & \quad 8 r^3 R s^8 (64 R^2 + 9 s^2) - 8 r^{11} (280 R^3 + 9 R s^2) - r^{10} (8960 R^4 + 348 R^2 s^2 + 9 s^4) - \\ & \quad 4 r^9 (5376 R^5 + 112 R^3 s^2 + 9 R s^4) + r^8 (-28672 R^6 + 1152 R^4 s^2 + 304 R^2 s^4 - 5 s^6) + \\ & \quad 16 r^7 R (-1024 R^6 + 192 R^4 s^2 + 140 R^2 s^4 + s^6) + r^6 (1024 R^6 s^2 + 5632 R^4 s^4 - 488 R^2 s^6 + 5 s^8) + \\ & \quad 12 r^5 (512 R^5 s^4 - 176 R^3 s^6 - 3 R s^8) + r^4 (-1408 R^4 s^6 + 448 R^2 s^8 + 9 s^{10}) \left. \right) / \\ & \left((r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2)) \right)^2 \end{aligned}$$

$$|X_{39}X_{141}|^2:$$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} + r^2 s^{10} (228 R^2 + 5 s^2) - r^{12} (336 R^2 + 5 s^2) - \\ & \quad 8 r^3 R s^8 (64 R^2 + 9 s^2) - 8 r^{11} (280 R^3 + 9 R s^2) - r^{10} (8960 R^4 + 348 R^2 s^2 + 9 s^4) - \\ & \quad 4 r^9 (5376 R^5 + 112 R^3 s^2 + 9 R s^4) + r^8 (-28672 R^6 + 1152 R^4 s^2 + 304 R^2 s^4 - 5 s^6) + \\ & \quad 16 r^7 R (-1024 R^6 + 192 R^4 s^2 + 140 R^2 s^4 + s^6) + r^6 (1024 R^6 s^2 + 5632 R^4 s^4 - 488 R^2 s^6 + 5 s^8) + \\ & \quad 12 r^5 (512 R^5 s^4 - 176 R^3 s^6 - 3 R s^8) + r^4 (-1408 R^4 s^6 + 448 R^2 s^8 + 9 s^{10}) \left. \right) / \\ & \left(4 (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4)) \right)^2 \end{aligned}$$

$$|X_{39}X_{142}|^2:$$

$$\begin{aligned} & - \left((r^{12} + 28 r^{11} R + 64 r R^3 s^8 - 4 R^2 s^{10} + r^{10} (336 R^2 + 5 s^2) + 8 r^9 (280 R^3 + 9 R s^2) + \right. \\ & \quad r^2 s^6 (128 R^4 - 16 R^2 s^2 + s^4) + 2 r^8 (4480 R^4 + 174 R^2 s^2 + 5 s^4) + \\ & \quad 16 r^7 (1344 R^5 + 28 R^3 s^2 + 3 R s^4) - 8 r^5 R (-2048 R^6 + 384 R^4 s^2 + 176 R^2 s^4 + s^6) + \\ & \quad 2 r^6 (14336 R^6 - 576 R^4 s^2 - 96 R^2 s^4 + 5 s^6) - \\ & \quad r^4 (1024 R^6 s^2 + 2560 R^4 s^4 - 40 R^2 s^6 - 5 s^8) - 4 r^3 (512 R^5 s^4 - 48 R^3 s^6 + 3 R s^8) \left. \right) / \\ & \left(4 (r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2)) \right)^2 \end{aligned}$$

$$|X_{39}X_{145}|^2:$$

$$\begin{aligned} & (7 r^{10} + 76 r^9 R - 1664 r^7 R^3 - 36 r R s^8 + s^{10} + r^8 (96 R^2 + 29 s^2) + \\ & \quad r^6 (-7424 R^4 - 876 R^2 s^2 + 46 s^4) - 8 r^5 (1152 R^5 - 52 R^3 s^2 + 33 R s^4) + \\ & \quad 2 r^4 (4128 R^4 s^2 + 548 R^2 s^4 + 17 s^6) - 32 r^3 (89 R^3 s^4 + 7 R s^6) + r^2 (468 R^2 s^6 + 11 s^8) \left. \right) / \\ & (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \end{aligned}$$

$$|X_{39}X_{190}|^2:$$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 44 r R s^{12} + s^{14} - 8 r^3 R s^8 (760 R^2 - 17 s^2) + r^2 s^{10} (740 R^2 - 3 s^2) - \\ & \quad r^{12} (336 R^2 + 13 s^2) - 8 r^{11} (280 R^3 + 23 R s^2) + r^4 s^6 (25728 R^4 - 1920 R^2 s^2 - 31 s^4) - \\ & \quad r^{10} (8960 R^4 + 668 R^2 s^2 + 49 s^4) - 4 r^9 (5376 R^5 - 528 R^3 s^2 + 29 R s^4) + \\ & \quad r^8 (-28672 R^6 + 21632 R^4 s^2 + 880 R^2 s^4 - 85 s^6) - \\ & \quad 16 r^7 (1024 R^7 - 3520 R^5 s^2 + 208 R^3 s^4 - 27 R s^6) + \\ & \quad r^6 (50176 R^6 s^2 - 35840 R^4 s^4 - 2472 R^2 s^6 - 75 s^8) + \\ & \quad r^5 (-54272 R^5 s^4 + 11840 R^3 s^6 + 572 R s^8) \left. \right) / \\ & (3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4))^2 \end{aligned}$$

$$\begin{aligned}
|X_{39}X_{192}|^2: & \quad (-r^{14} - 28r^{13}R - 44rRs^{12} + s^{14} + 5r^2s^{10}(148R^2 + s^2) - \\
& \quad r^{12}(336R^2 + 5s^2) - 8r^3Rs^8(760R^2 + 11s^2) - 8r^{11}(280R^3 + 3Rs^2) + \\
& \quad r^{10}(-8960R^4 + 612R^2s^2 - 9s^4) + 3r^4s^6(8576R^4 - 64R^2s^2 + 3s^4) + \\
& \quad r^9(-21504R^5 + 7232R^3s^2 + 140Rs^4) + r^8(-28672R^6 + 31872R^4s^2 + 560R^2s^4 - 5s^6) - \\
& \quad 16r^7(1024R^7 - 4032R^5s^2 + 496R^3s^4 - 15Rs^6) + \\
& \quad r^6(50176R^6s^2 - 43008R^4s^4 - 1320R^2s^6 + 5s^8) + r^5(-54272R^5s^4 + 9280R^3s^6 + 60Rs^8)) / \\
& \quad (r^6 + 12r^5R - 4rRs^4 + s^6 + 8r^3R(8R^2 + s^2) + 3r^4(16R^2 + s^2) + r^2(-16R^2s^2 + 3s^4))^2 \\
|X_{39}X_{194}|^2: & \quad (-r^{10} - 20r^9R - 20rRs^8 + s^{10} - 16r^7R(40R^2 + s^2) - r^8(160R^2 + 3s^2) - \\
& \quad 2r^6(640R^4 + 6R^2s^2 + s^4) - 8r^5(128R^5 + 12R^3s^2 - Rs^4) + r^4(-448R^4s^2 + 264R^2s^4 + 2s^6) + \\
& \quad 16r^3(14R^3s^4 - Rs^6) + r^2(52R^2s^6 + 3s^8)) / (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \\
|X_{39}X_{200}|^2: & \quad - \left((4R(r^{10}R + 160r^8R^3 + 28rR^2s^8 - Rs^{10} + r^9(20R^2 - s^2) + r^7(640R^4 + 44R^2s^2 - 3s^4) + \right. \\
& \quad 2r^6(640R^5 - 2R^3s^2 - 3Rs^4) + r^5(1024R^6 - 864R^4s^2 - 3s^6) + \\
& \quad r^4(-1600R^5s^2 - 8R^3s^4 + 7Rs^6) + r^3(928R^4s^4 + 52R^2s^6 - s^8) - \\
& \quad \left. r^2(244R^3s^6 + 5Rs^8)) \right) / \left((r - 2R)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
|X_{39}X_{210}|^2: & \quad (-r^{10}R + 4Rs^{10} + 2rRs^8(-52R^2 + s^2) + r^9(-20R^2 + 2s^2) - \\
& \quad 20r^8(8R^3 - Rs^2) + r^7(-640R^4 + 116R^2s^2 + 8s^4) + r^6(-1280R^5 + 644R^3s^2 + 6Rs^4) - \\
& \quad 4r^5(256R^6 - 536R^4s^2 + 33R^2s^4 - 3s^6) + 8r^4(328R^5s^2 - 67R^3s^4 - 6Rs^6) + \\
& \quad r^3(-2272R^4s^4 + 140R^2s^6 + 8s^8) + r^2(772R^3s^6 - 29Rs^8)) / \\
& \quad (9R(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2) \\
|X_{39}X_{213}|^2: & \quad (16r^4R^2s^4(3r^8 + 44r^7R + 4R^2s^6 + 3s^8 + 4r^6(56R^2 - s^2) + 12r^5(32R^3 - Rs^2) - 2 \\
& \quad r^4(128R^4 - 66R^2s^2 + 7s^4) - 4r^3(256R^5 - 152R^3s^2 + 23Rs^4) + \\
& \quad 4r^2(144R^4s^2 - 6R^2s^4 - s^6) - 12r(8R^3s^4 + 3Rs^6)) / \\
& \quad (r^8 + 16r^7R + 256r^4R^4 + 12rRs^6 - s^8 + 8r^3Rs^2(-8R^2 + s^2) + 2r^6(48R^2 + s^2) + \\
& \quad 4r^5(64R^3 + 3Rs^2) - 2r^2(16R^2s^4 + s^6))^2 \\
|X_{39}X_{238}|^2: & \quad - \left((4r^2R(r^{11} + 24r^{10}R - Rs^{10} + rRs^8(16R^2 - 3s^2) + r^9(240R^2 + s^2) + 5r^8(256R^3 + 3Rs^2) + \right. \\
& \quad r^7(3840R^4 + 80R^2s^2 - 6s^4) + 4r^6(1536R^5 + 40R^3s^2 - 33Rs^4) + \\
& \quad 2r^5(2048R^6 - 400R^2s^4 - 7s^6) - 2r^4(128R^5s^2 + 800R^3s^4 - 85Rs^6) + \\
& \quad \left. r^3(-512R^4s^4 + 144R^2s^6 - 11s^8) + 4r^2(8R^3s^6 + 9Rs^8)) \right) / \\
& \quad (3r^6 + 36r^5R + 20rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 8r^3(24R^3 - Rs^2) + r^2(-112R^2s^2 + s^4))^2 \\
|X_{39}X_{239}|^2: & \quad (-r^{14} - 28r^{13}R - 28rRs^{12} + s^{14} + 13r^2s^{10}(20R^2 + s^2) + \\
& \quad r^{12}(-336R^2 + 3s^2) - 24r^3Rs^8(56R^2 + 9s^2) - 8r^{11}(280R^3 - 13Rs^2) + \\
& \quad r^{10}(-8960R^4 + 1252R^2s^2 + 31s^4) + r^4s^6(4736R^4 + 736R^2s^2 + 49s^4) + \\
& \quad r^9(-21504R^5 + 7232R^3s^2 + 348Rs^4) + r^8(-28672R^6 + 21632R^4s^2 + 1168R^2s^4 + 75s^6) - \\
& \quad 16r^7(1024R^7 - 1984R^5s^2 + 8R^3s^4 - 7Rs^6) + \\
& \quad r^6(17408R^6s^2 - 7680R^4s^4 - 968R^2s^6 + 85s^8) - 4r^5(2816R^5s^4 - 80R^3s^6 + 73Rs^8)) / \\
& \quad (3r^6 + 36r^5R + 20rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 8r^3(24R^3 - Rs^2) + r^2(-112R^2s^2 + s^4))^2
\end{aligned}$$

$|X_{39}X_{244}|^2:$

$$- \left((4 r^4 R (4 r^9 + 105 r^8 R - 100 R^3 s^6 + 9 R s^8 + 4 r^7 (285 R^2 + 4 s^2) + 4 r^6 (1640 R^3 + 37 R s^2) + 12 r^5 (1760 R^4 - 19 R^2 s^2 + 2 s^4) + 2 r^4 (18048 R^5 - 2866 R^3 s^2 - 5 R s^4) + 4 r^3 (6400 R^6 - 4376 R^4 s^2 + 103 R^2 s^4 + 4 s^6) - 4 r^2 (3600 R^5 s^2 - 662 R^3 s^4 + 11 R s^6) + 4 r (600 R^4 s^4 - 67 R^2 s^6 + s^8)) / (r^6 - 6 r^5 R - 22 r R s^4 + s^6 - 28 r^3 R (8 R^2 + s^2) + r^4 (-96 R^2 + 3 s^2) + r^2 (128 R^2 s^2 + 3 s^4)) \right)^2$$

 $|X_{39}X_{304}|^2:$

$$- \left((r^{18} + 36 r^{17} R + 36 r R s^{16} - s^{18} - 24 r^4 R^2 s^{10} (424 R^2 - 25 s^2) + 48 r^{15} R (112 R^2 + s^2) - 3 r^2 s^{14} (156 R^2 + s^2) + 16 r^3 R s^{12} (182 R^2 + s^2) + 3 r^{16} (192 R^2 + s^2) + 36 r^{14} (896 R^4 + 3 R^2 s^2) + 16 r^5 R s^8 (1728 R^4 - 430 R^2 s^2 - 9 s^4) + 16 r^{13} (8064 R^5 - 174 R^3 s^2 - R s^4) + 16 r^7 R s^4 (7680 R^6 - 6336 R^4 s^2 + 356 R^2 s^4 - 7 s^6) + 8 r^{12} (43008 R^6 - 3480 R^4 s^2 + 11 R^2 s^4 - s^6) + 4 r^6 s^6 (-18176 R^6 + 7872 R^4 s^2 + 229 R^2 s^4 + 2 s^6) + 16 r^{11} (36864 R^7 - 7488 R^5 s^2 + 278 R^3 s^4 + 3 R s^6) + r^{10} (589824 R^8 - 273408 R^6 s^2 + 36608 R^4 s^4 + 468 R^2 s^6 - 6 s^8) + 2 r^8 s^2 (-73728 R^8 + 105472 R^6 s^2 - 20928 R^4 s^4 - 120 R^2 s^6 + 3 s^8) + 8 r^9 (32768 R^9 - 39936 R^7 s^2 + 16256 R^5 s^4 - 584 R^3 s^6 + 11 R s^8)) / (r^8 + 16 r^7 R + 16 r^3 R s^4 + 16 r R s^6 - s^8 + 32 r^4 R^2 (8 R^2 + s^2) + 16 r^5 R (16 R^2 + s^2) + 2 r^6 (48 R^2 + s^2) - 2 r^2 (32 R^2 s^4 + s^6)) \right)^2$$

 $|X_{39}X_{306}|^2:$

$$- \left((r^{14} + 24 r^{13} R + 32 r R s^{12} - s^{14} + r^{12} (244 R^2 + 5 s^2) - r^2 s^{10} (344 R^2 + 5 s^2) + 8 r^3 R s^8 (196 R^2 + 9 s^2) + 8 r^{11} (170 R^3 + 9 R s^2) - 9 r^4 s^6 (272 R^4 + 28 R^2 s^2 + s^4) + r^{10} (4480 R^4 + 488 R^2 s^2 + 9 s^4) + 16 r^9 (544 R^5 + 133 R^3 s^2 + 3 R s^4) + r^8 (9216 R^6 + 6000 R^4 s^2 - 344 R^2 s^4 + 5 s^6) + 16 r^7 (256 R^7 + 584 R^5 s^2 - 147 R^3 s^4 - R s^6) + r^6 (5888 R^6 s^2 - 4256 R^4 s^4 + 528 R^2 s^6 - 5 s^8) - 8 r^5 (272 R^5 s^4 - 62 R^3 s^6 - 3 R s^8)) / (3 r^6 + 30 r^5 R + 14 r R s^4 - s^6 + r^4 (96 R^2 + 5 s^2) + 4 r^3 (24 R^3 - 5 R s^2) + r^2 (-64 R^2 s^2 + s^4)) \right)^2$$

 $|X_{39}X_{312}|^2:$

$$(-r^{14} - 20 r^{13} R - 36 r R s^{12} + s^{14} - 5 r^{12} (32 R^2 + s^2) + r^2 s^{10} (468 R^2 + 5 s^2) - 8 r^3 R s^8 (356 R^2 + 11 s^2) - 8 r^{11} (80 R^3 + 3 R s^2) + r^{10} (-1280 R^4 + 180 R^2 s^2 - 9 s^4) - 12 r^5 R s^4 (768 R^4 - 72 R^2 s^2 + s^4) + r^9 (-1024 R^5 + 1696 R^3 s^2 + 68 R s^4) + r^8 (5184 R^4 s^2 + 240 R^2 s^4 - 5 s^6) + 16 r^7 (384 R^5 s^2 - 134 R^3 s^4 + 7 R s^6) + r^6 (-5760 R^4 s^4 - 232 R^2 s^6 + 5 s^8) + r^4 (8256 R^4 s^6 + 336 R^2 s^8 + 9 s^{10})) / (r^6 - 16 r R s^4 + s^6 - 16 r^3 R (8 R^2 + s^2) + r^4 (-48 R^2 + 3 s^2) + r^2 (80 R^2 s^2 + 3 s^4)) \right)^2$$

$|X_{39}X_{319}|^2:$

$$\begin{aligned} & - \left((r^{14} + 28 r^{13} R + 252 r R s^{12} - 9 s^{14} + r^{12} (336 R^2 + 13 s^2) - 3 r^2 s^{10} (716 R^2 + 23 s^2) + \right. \\ & \quad 24 r^3 R s^8 (296 R^2 + 45 s^2) + 8 r^{11} (280 R^3 + 31 R s^2) + \\ & \quad r^{10} (8960 R^4 + 1948 R^2 s^2 + 9 s^4) - r^4 s^6 (5248 R^4 + 4608 R^2 s^2 + 177 s^4) + \\ & \quad 4 r^9 (5376 R^5 + 2032 R^3 s^2 - 31 R s^4) + r^8 (28672 R^6 + 19328 R^4 s^2 - 2032 R^2 s^4 - 83 s^6) + \\ & \quad 16 r^7 (1024 R^7 + 1600 R^5 s^2 - 560 R^3 s^4 - 19 R s^6) + \\ & \quad r^6 (15360 R^6 s^2 - 17408 R^4 s^4 + 3112 R^2 s^6 - 197 s^8) + \\ & \quad \left. r^5 (-15360 R^5 s^4 + 7616 R^3 s^6 + 868 R s^8) \right) / \\ & \quad (r^6 + 12 r^5 R + 28 r R s^4 - 3 s^6 + r^4 (48 R^2 - s^2) + 8 r^3 (8 R^3 - 3 R s^2) - 5 r^2 (16 R^2 s^2 + s^4))^2 \end{aligned}$$

 $|X_{39}X_{320}|^2:$

$$\begin{aligned} & (-9 r^{14} - 252 r^{13} R - 28 r R s^{12} + s^{14} + 8 r^3 R s^8 (40 R^2 - 31 s^2) + r^2 s^{10} (196 R^2 + 13 s^2) - \\ & \quad 3 r^{12} (1008 R^2 + 23 s^2) - 360 r^{11} (56 R^3 + 3 R s^2) - 3 r^{10} (26880 R^4 + 2004 R^2 s^2 + 59 s^4) - \\ & \quad 4 r^9 (48384 R^5 + 2928 R^3 s^2 + 217 R s^4) + r^8 (-258048 R^6 + 10368 R^4 s^2 + 1712 R^2 s^4 - 197 s^6) - \\ & \quad 16 r^7 (9216 R^7 - 4032 R^5 s^2 - 672 R^3 s^4 - 19 R s^6) + \\ & \quad r^6 (58368 R^6 s^2 + 8192 R^4 s^4 - 3240 R^2 s^6 - 83 s^8) + \\ & \quad 4 r^5 (2816 R^5 s^4 - 1136 R^3 s^6 + 31 R s^8) + r^4 (-7040 R^4 s^6 + 1472 R^2 s^8 + 9 s^{10})) / \\ & \quad (3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4))^2 \end{aligned}$$

 $|X_{39}X_{321}|^2:$

$$\begin{aligned} & (-r^{14} - 24 r^{13} R - 32 r R s^{12} + s^{14} - 72 r^3 R s^8 (28 R^2 + s^2) - 40 r^{11} R (34 R^2 + s^2) + \\ & \quad 5 r^2 s^{10} (72 R^2 + s^2) - r^{12} (244 R^2 + 5 s^2) + r^{10} (-4480 R^4 + 88 R^2 s^2 - 9 s^4) + \\ & \quad 8 r^5 R s^4 (-1392 R^4 + 178 R^2 s^2 + s^4) + r^4 s^6 (6288 R^4 + 172 R^2 s^2 + 9 s^4) + \\ & \quad r^9 (-8704 R^5 + 1968 R^3 s^2 + 48 R s^4) + r^8 (-9216 R^6 + 8336 R^4 s^2 + 360 R^2 s^4 - 5 s^6) - \\ & \quad 16 r^7 (256 R^7 - 952 R^5 s^2 + 89 R^3 s^4 - 7 R s^6) + r^6 (10496 R^6 s^2 - 8288 R^4 s^4 - 160 R^2 s^6 + 5 s^8)) / \\ & \quad (r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

 $|X_{39}X_{345}|^2:$

$$\begin{aligned} & (-r^{14} - 20 r^{13} R - 36 r R s^{12} + s^{14} - 8 r^3 R s^8 (356 R^2 - 3 s^2) - 8 r^{11} R (80 R^2 + s^2) - \\ & \quad r^{12} (160 R^2 + s^2) + r^2 s^{10} (468 R^2 + s^2) - 16 r^7 R s^2 (384 R^4 - 146 R^2 s^2 + s^4) + \\ & \quad r^{10} (-1280 R^4 - 204 R^2 s^2 + 3 s^4) - 4 r^9 (256 R^5 + 472 R^3 s^2 + 7 R s^4) + \\ & \quad r^8 (-6080 R^4 s^2 + 608 R^2 s^4 + 3 s^6) - r^6 (2944 R^4 s^4 + 648 R^2 s^6 + 3 s^8) + \\ & \quad r^5 (-9216 R^5 s^4 + 3040 R^3 s^6 + 84 R s^8) + r^4 (8256 R^4 s^6 - 576 R^2 s^8 - 3 s^{10})) / \\ & \quad (5 r^6 + 48 r^5 R + 16 r R s^4 - s^6 + 9 r^4 (16 R^2 + s^2) + 32 r^3 (4 R^3 - R s^2) + r^2 (-80 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

 $|X_{39}X_{346}|^2:$

$$\begin{aligned} & (s^4 (-r^{10} + 12 r^9 R - 36 r R s^8 + s^{10} + r^8 (160 R^2 - 3 s^2) - 32 r^3 R s^4 (89 R^2 + s^2) - 64 r^7 \\ & \quad (2 R^3 - R s^2) - 2 r^6 (2176 R^4 + 246 R^2 s^2 + s^4) + r^5 (-9216 R^5 + 1952 R^3 s^2 + 56 R s^4) + \\ & \quad 2 r^4 (4128 R^4 s^2 - 60 R^2 s^4 + s^6) + 3 r^2 (156 R^2 s^6 + s^8))) / \\ & \quad (2 r^6 + 24 r^5 R - 80 r^2 R^2 s^2 + 16 r R s^4 - s^6 + 3 r^4 (32 R^2 + s^2) + 8 r^3 (16 R^3 - R s^2))^2 \end{aligned}$$

$$|X_{39}X_{350}|^2:$$

$$\begin{aligned} & - \left((r^{18} + 36 r^{17} R + 36 r R s^{16} - s^{18} + 48 r^3 R s^{12} (38 R^2 + 3 s^2) - r^2 s^{14} (436 R^2 + 7 s^2) + \right. \\ & \quad r^{16} (576 R^2 + 7 s^2) + 48 r^{15} (112 R^3 + 3 R s^2) - 16 r^5 R s^8 (2368 R^4 - 138 R^2 s^2 - 9 s^4) - \\ & \quad 4 r^4 s^{10} (-656 R^4 + 198 R^2 s^2 + 5 s^4) + 4 r^{14} (8064 R^4 + 251 R^2 s^2 + 5 s^4) + \\ & \quad 16 r^{13} (8064 R^5 + 50 R^3 s^2 + 9 R s^4) + 16 r^7 R s^4 (8704 R^6 + 3264 R^4 s^2 + 244 R^2 s^4 - 9 s^6) + \\ & \quad 4 r^{12} (86016 R^6 - 6960 R^4 s^2 - 198 R^2 s^4 + 7 s^6) - \\ & \quad 4 r^6 s^6 (-14592 R^6 + 4800 R^4 s^2 + 27 R^2 s^4 + 7 s^6) + \\ & \quad 16 r^{11} (36864 R^7 - 11072 R^5 s^2 - 598 R^3 s^4 - 9 R s^6) + \\ & \quad 2 r^{10} (294912 R^8 - 251392 R^6 s^2 - 10624 R^4 s^4 - 1062 R^2 s^6 + 7 s^8) - \\ & \quad 2 r^8 s^2 (204800 R^8 - 82944 R^6 s^2 - 10560 R^4 s^4 + 328 R^2 s^6 + 7 s^8) + \\ & \quad \left. 8 r^9 (32768 R^9 - 89088 R^7 s^2 + 4224 R^5 s^4 - 184 R^3 s^6 - 45 R s^8) \right) / \\ & \quad (r^8 + 16 r^7 R - 24 r R s^6 + s^8 - 32 r^3 R s^2 (12 R^2 + s^2) + 4 r^6 (24 R^2 + s^2) + \\ & \quad 8 r^5 R (32 R^2 + s^2) + 2 r^4 (128 R^4 - 64 R^2 s^2 + 3 s^4) + 4 r^2 (40 R^2 s^4 + s^6))^2 \end{aligned}$$

$$|X_{40}X_{41}|^2:$$

$$\frac{4 R (r^6 R + 4 R^3 s^4 + 8 r R^2 s^2 (-8 R^2 + s^2) + 2 r^5 (8 R^2 + s^2) + r^4 (96 R^3 + 11 R s^2) + 2 r^3 (128 R^4 - 6 R^2 s^2 - 3 s^4) + 2 r^2 (128 R^5 - 56 R^3 s^2 - R s^4))}{(r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2}$$

$$|X_{40}X_{42}|^2: - \frac{4 R (r^5 + 2 r^4 R + 2 r^3 s^2 - R s^4 + r^2 (-4 R^3 + 5 R s^2) + r (4 R^2 s^2 + s^4))}{(r^2 - 2 r R + s^2)^2}$$

$$|X_{40}X_{43}|^2: \frac{4 R^2 (9 r^4 + 16 r^3 R - 16 r R s^2 + s^4 + r^2 (64 R^2 - 6 s^2))}{(r^2 - 8 r R + s^2)^2}$$

$$|X_{40}X_{44}|^2: \frac{4 R (9 r^4 R + R s^4 + 3 r^3 (24 R^2 + s^2) + 3 r^2 (48 R^3 - 7 R s^2) + r (-24 R^2 s^2 + s^4))}{(-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{40}X_{45}|^2: \frac{4 R (9 r^4 R + R s^4 + r^3 (72 R^2 - 3 s^2) + 3 r^2 (48 R^3 - 11 R s^2) + r (24 R^2 s^2 - 5 s^4))}{(3 r^2 + 12 r R + s^2)^2}$$

$$|X_{40}X_{46}|^2: \frac{4 R^3 (-2 r + R)}{(r - R)^2}$$

$$|X_{40}X_{55}|^2: - \frac{(2 r - R) R (r + 2 R)^2}{(r + R)^2}$$

$$|X_{40}X_{56}|^2: - \frac{(r - 2 R)^2 (2 r - R) R}{(r - R)^2}$$

$$|X_{40}X_{57}|^2: \frac{16 R^3 (-2 r + R)}{(r - 2 R)^2}$$

$$|X_{40}X_{58}|^2: \frac{4 R (-3 r^5 + R s^4 + 4 r^3 (4 R^2 + s^2) + r^2 (16 R^3 - 3 R s^2) - r (8 R^2 s^2 + s^4))}{(-3 r^2 - 4 r R + s^2)^2}$$

$$|X_{40}X_{63}|^2: \frac{R^2 (3 r^2 + 4 r R + 4 R^2 - s^2)}{(r + R)^2}$$

$$|X_{40}X_{65}|^2: - \frac{(2 r - R) (r + 2 R)^2}{R}$$

$$|X_{40}X_{69}|^2: - \frac{r^6 + 12 r^5 R - 4 R^2 s^4 + s^6 + 32 r^3 R (R^2 + s^2) + r^4 (44 R^2 + 7 s^2) + r^2 (-64 R^4 + 72 R^2 s^2 - 9 s^4) + 4 r (8 R^3 s^2 - 3 R s^4)}{(r^2 + 4 r R - s^2)^2}$$

$$|X_{40}X_{72}|^2: - \frac{r^3 + 2 r^2 R - 4 R^3 - r s^2 + R s^2}{R}$$

$$|X_{40}X_{75}|^2: - \frac{r^6 + 12 r^5 R - 4 R^2 s^4 + s^6 + 4 r R s^2 (-8 R^2 + s^2) + r^4 (44 R^2 + 3 s^2) + 16 r^3 (2 R^3 - R s^2) + r^2 (-64 R^4 - 72 R^2 s^2 + 3 s^4)}{(r^2 + 4 r R + s^2)^2}$$

$$|X_{40}X_{76}|^2:$$

$$\begin{aligned} & - \left((r^{10} + 20 r^9 R - 64 r^5 R^3 s^2 - 4 R^2 s^8 + s^{10} + r^8 (156 R^2 + 5 s^2) + 8 r^7 (72 R^3 + 5 R s^2) + \right. \\ & \quad 2 r^6 (448 R^4 + 32 R^2 s^2 + 5 s^4) - 2 r^4 (512 R^6 - 128 R^4 s^2 + 108 R^2 s^4 - 5 s^6) + \\ & \quad 8 r^3 (128 R^5 s^2 - 40 R^3 s^4 - 5 R s^6) + r^2 (-384 R^4 s^4 + 128 R^2 s^6 + 5 s^8) + \\ & \quad \left. 4 r (16 R^3 s^6 - 5 R s^8) \right) / (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \end{aligned}$$

$$|X_{40}X_{78}|^2: - \frac{(2 r - R) R (3 r^2 + 4 r R + 4 R^2 - s^2)}{(r - R)^2}$$

$$\begin{aligned}
|X_{40}X_{79}|^2 &: \frac{4(r^3 R + 9 R^4 + r^2(7 R^2 - 4 s^2) + 3 r(4 R^3 - R s^2))}{(2 r + 3 R)^2} \\
|X_{40}X_{80}|^2 &: \frac{4(r^3 + 5 r^2 R + 6 r R^2 - R^3 - r s^2)}{2 r - R} \\
|X_{40}X_{81}|^2 &: \frac{R(3 r^4 R + 4 R s^4 + 2 r^3(2 R^2 + s^2) + r^2(4 R^3 - 13 R s^2) - 2 r(4 R^2 s^2 + 3 s^4))}{(r^2 + r R - s^2)^2} \\
|X_{40}X_{83}|^2 &: \frac{(-r^{10} - 20 r^9 R + s^8(100 R^2 - 9 s^2) + r^8(-60 R^2 + 3 s^2) + 8 r^7(120 R^3 + 17 R s^2) + r^6(8320 R^4 + 896 R^2 s^2 + 6 s^4) + 16 r^5(1536 R^5 - 12 R^3 s^2 - 13 R s^4) + 2 r^4(12800 R^6 - 6784 R^4 s^2 - 436 R^2 s^4 - 5 s^6) - 8 r^3(3200 R^5 s^2 - 328 R^3 s^4 - 31 R s^6) + r^2(9600 R^4 s^4 - 448 R^2 s^6 - 21 s^8) - 100 r(16 R^3 s^6 - R s^8))}{(5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2(80 R^2 - 6 s^2))^2} \\
|X_{40}X_{85}|^2 &: \frac{-r^6 + 20 r^5 R - 1024 R^6 - 128 R^4 s^2 + 28 R^2 s^4 + s^6 + 16 r^3 R(36 R^2 + s^2) + 3 r^4(52 R^2 + s^2) + r^2(896 R^4 - 24 R^2 s^2 + 3 s^4) - 4 r(48 R^3 s^2 - 7 R s^4)}{(r^2 + 8 r R + 16 R^2 + s^2)^2} \\
|X_{40}X_{86}|^2 &: \frac{-r^6 + 12 r^5 R - 100 R^2 s^4 + 9 s^6 + 11 r^4(4 R^2 + s^2) + 32 r^3(R^3 + 2 R s^2) + r^2(-64 R^4 + 88 R^2 s^2 + 19 s^4) + r(-160 R^3 s^2 + 84 R s^4)}{(r^2 + 4 r R + 5 s^2)^2} \\
|X_{40}X_{88}|^2 &: \frac{R(-45 r^4 R + 4 R s^4 + 75 r^2 R(12 R^2 + s^2) + r^3(-684 R^2 + 6 s^2) - 2 r(60 R^2 s^2 + s^4))}{(3 r^2 - 15 r R + s^2)^2} \\
|X_{40}X_{89}|^2 &: \frac{R(63 r^4 R + 16 R s^4 + 12 r^3(-39 R^2 + s^2) + 3 r^2(12 R^3 - 79 R s^2) + 4 r(12 R^2 s^2 - 5 s^4))}{(-6 r^2 + 3 r R + 2 s^2)^2} \\
|X_{40}X_{99}|^2 &: \frac{-r^6 + 12 r^5 R - 4 R^2 s^4 + s^6 + r^4(44 R^2 + 3 s^2) + 32 r^3(R^3 - R s^2) + r^2(-64 R^4 + 24 R^2 s^2 + 3 s^4) + 4 r(8 R^3 s^2 - 3 R s^4)}{r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2(8 R^2 - 7 s^2)} \\
|X_{40}X_{141}|^2 &: \frac{-r^6 + 12 r^5 R - 16 R^2 s^4 + 3 s^6 + 32 r^3 R(-2 R^2 + s^2) + r^4(32 R^2 + 5 s^2) + r^2(-256 R^4 + 92 R^2 s^2 - 9 s^4) + 4 r(32 R^3 s^2 - 7 R s^4)}{4(r^2 + 4 r R - s^2)^2} \\
|X_{40}X_{142}|^2 &: \frac{-r^4 + 12 r^3 R - 256 R^4 + 28 R^2 s^2 + r^2(32 R^2 + 5 s^2) - 8 r(8 R^3 - 3 R s^2)}{4(r + 4 R)^2} \\
|X_{40}X_{145}|^2 &: 7 r^2 - 52 r R + 4 R^2 + 3 s^2 \\
|X_{40}X_{190}|^2 &: \frac{-r^6 + 12 r^5 R - 4 R^2 s^4 + s^6 + 3 r^4(4 R^2 + s^2) - 16 r^3(14 R^3 + 3 R s^2) + 3 r^2(-192 R^4 + 72 R^2 s^2 + s^4) + 4 r(24 R^3 s^2 - 7 R s^4)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_{40}X_{192}|^2 &: \frac{-r^6 - 12 r^5 R + 4 R^2 s^4 + 3 s^6 + r^4(-44 R^2 + s^2) - 8 r^3(4 R^3 - 7 R s^2) + r^2(64 R^4 + 24 R^2 s^2 + 5 s^4) + 4 r(8 R^3 s^2 - 15 R s^4)}{(r^2 + 4 r R + s^2)^2} \\
|X_{40}X_{194}|^2 &: \frac{-\left((r^{10} + 20 r^9 R + 576 r^7 R^3 + 8 r^5 R s^2(56 R^2 + s^2) + r^8(156 R^2 + s^2) - s^8(4 R^2 + 3 s^2) + 2 r^6(448 R^4 + 8 R^2 s^2 - 3 s^4) - 2 r^4(512 R^6 - 768 R^4 s^2 + 220 R^2 s^4 + 7 s^6) + 32 r^3(32 R^5 s^2 - 2 R^3 s^4 + 3 R s^6) - r^2(384 R^4 s^4 + 304 R^2 s^6 + 11 s^8) + r(64 R^3 s^6 + 68 R s^8))\right)}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2(8 R^2 + s^2))^2} \\
|X_{40}X_{200}|^2 &: \frac{-4 R(r^3 + 2 r^2 R - 4 R^3 - r s^2 + R s^2)}{(r - 2 R)^2} \\
|X_{40}X_{210}|^2 &: \frac{1}{9} \left(5 r^2 + 20 r R + 36 R^2 - 8 s^2 + \frac{2 r s^2}{R}\right) \\
|X_{40}X_{213}|^2 &: \frac{1}{(r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2} 4 R \\
&\quad (r^8 R + R s^8 + r^7(16 R^2 + s^2) + r^6(96 R^3 + 5 R s^2) + r^5(256 R^4 + s^4) + 8 r^4 R(32 R^4 + 2 R^2 s^2 + s^4) + r^3(128 R^4 s^2 - 24 R^2 s^4 - s^6) + r^2(-16 R^3 s^4 + 5 R s^6) - r(8 R^2 s^6 + s^8)) \\
|X_{40}X_{238}|^2 &: \frac{-4 R(4 r^5 + 23 r^4 R + 24 r R^2 s^2 - R s^4 + 2 r^2 R(-72 R^2 + s^2) - 4 r^3(2 R^2 + s^2))}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_{40}X_{239}|^2 &: \frac{-r^6 - 12 r^5 R + 4 R^2 s^4 + 3 s^6 + r^4(-12 R^2 + s^2) + 56 r^3 R(4 R^2 + s^2) + r^2(576 R^4 + 184 R^2 s^2 + 5 s^4) - 12 r(8 R^3 s^2 + 5 R s^4)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_{40}X_{244}|^2 &: \frac{4 R(-3 r^5 - 50 r^4 R + R s^4 + 4 r^3(-46 R^2 + s^2) + r^2(196 R^3 + 27 R s^2) - r(28 R^2 s^2 + s^4))}{(r^2 - 14 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{40}X_{304}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2} \\
& \quad (-r^{10}-20r^9R+8r^7R(-72R^2+s^2)-s^8(-4R^2+s^2)-r^8(156R^2+s^2)+ \\
& \quad 2r^6(-448R^4+56R^2s^2+s^4)+64r^5(5R^3s^2-Rs^4)+2r^4(512R^6+256R^4s^2-132R^2s^4+s^6)+ \\
& \quad 8r^3(128R^5s^2-56R^3s^4+7Rs^6)+r^2(128R^4s^4-80R^2s^6-s^8)+r(-64R^3s^6+20Rs^8)) \\
|X_{40}X_{306}|^2 &: \frac{-r^6-8r^5R+4R^2s^4-s^6+r^4(16R^2-7s^2)+16rRs^2(-3R^2+s^2)+8r^3(16R^3-7R^2s^2)+9r^2(16R^4-12R^2s^2+s^4)}{(-3r^2-6rR+s^2)^2} \\
|X_{40}X_{312}|^2 &: \frac{-r^6-4r^5R+4R^2s^4-s^6+r^4(4R^2-3s^2)+r^3(-64R^3+48Rs^2)+r^2(256R^4-104R^2s^2-3s^4)+r(-64R^3s^2+20Rs^4)}{(r^2-8rR+s^2)^2} \\
|X_{40}X_{319}|^2 &: \frac{-r^6-12r^5R+36R^2s^4-9s^6-11r^4(4R^2+s^2)-16r^3(2R^3+5Rs^2)+r^2(64R^4-216R^2s^2+45s^4)+r(-96R^3s^2+60Rs^4)}{(r^2+4rR-3s^2)^2} \\
|X_{40}X_{320}|^2 &: \frac{-9r^6+108r^5R-4R^2s^4+s^6+144r^3R(2R^2+s^2)+r^4(396R^2+51s^2)-3r^2(192R^4-72R^2s^2+7s^4)+4r(24R^3s^2-7Rs^4)}{(-3r^2-12rR+s^2)^2} \\
|X_{40}X_{321}|^2 &: \frac{-r^6+8r^5R-4R^2s^4+s^6+r^4(16R^2+3s^2)+32r^3(R^3-Rs^2)+r^2(-16R^4-4R^2s^2+3s^4)+8r(2R^3s^2-Rs^4)}{(r^2-2rR+s^2)^2} \\
|X_{40}X_{345}|^2 &: \frac{-r^6-4r^5R+4R^2s^4-s^6+r^4(100R^2-7s^2)+80r^3(4R^3-Rs^2)+r^2(256R^4-152R^2s^2+9s^4)+r(-64R^3s^2+20Rs^4)}{(-5r^2-8rR+s^2)^2} \\
|X_{40}X_{346}|^2 &: \frac{16r^4R^2+4R^2s^4-s^6+16r^3(8R^3-Rs^2)+r^2(256R^4-128R^2s^2+3s^4)+r(-64R^3s^2+20Rs^4)}{(-2r^2-8rR+s^2)^2} \\
|X_{40}X_{350}|^2 &: - \left((r^{10}+20r^9R-4R^2s^8+s^{10}+24r^7R(24R^2+s^2)+r^8(156R^2+5s^2)+2r^6(448R^4-80R^2s^2+5s^4)-16r^5(64R^3s^2+3Rs^4)-2r^4(512R^6+384R^4s^2+140R^2s^4-5s^6)+8r^3(256R^5s^2+72R^3s^4-11Rs^6)+r^2(-1152R^4s^4+288R^2s^6+5s^8)+4r(32R^3s^6-9Rs^8)) / (r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2 \right) \\
|X_{41}X_{42}|^2 &: - \left((4r^2R^2(r^8+20r^7R-4R^2s^6+s^8+8r^6(20R^2+s^2)+r^5(640R^3+76Rs^2)+2r^4(640R^4+126R^2s^2-17s^4)+4r^3(256R^5+104R^3s^2-37Rs^4)+8r^2(56R^4s^2-23R^2s^4+3s^6)+4r(8R^3s^4-3Rs^6))) / (r^5+6r^4R-2r^3s^2-2Rs^4-4r^2(8R^3-3Rs^2)+r(20R^2s^2-3s^4))^2 \right) \\
|X_{41}X_{43}|^2 &: (4r^2R(r^9+20r^8R+Rs^8+2r^7(80R^2-s^2)+3rs^6(-8R^2+s^2)+r^6(640R^3-63Rs^2)+4r^5(320R^4-114R^2s^2-s^4)+r^4(1024R^5-1136R^3s^2+103Rs^4)+r^3(-768R^4s^2+384R^2s^4+2s^6)+r^2(208R^3s^4-69Rs^6))) / (r^5-2Rs^4-2r^3(24R^2+s^2)+r^2(-128R^3+30Rs^2)+r(32R^2s^2-3s^4))^2 \\
|X_{41}X_{44}|^2 &: \frac{-4r^2Rs^4(10r^5+85r^4R-4R^3s^2-3Rs^4+4r^3(51R^2-7s^2)+2r^2(56R^3+33Rs^2)+r(64R^4+36R^2s^2-6s^4))}{(3r^5+36r^4R+2Rs^4+2r^3(72R^2-5s^2)+2r^2(96R^3-25Rs^2)+r(-40R^2s^2+3s^4))^2} \\
|X_{41}X_{45}|^2 &: \frac{-4r^2Rs^4(28r^5+325r^4R-100R^3s^2+9Rs^4+4r^3(339R^2-22s^2)+r^2(2416R^3-258Rs^2)+4r(400R^4-81R^2s^2+3s^4))}{(-3r^5-36r^4R+2Rs^4+8r^3(-18R^2+s^2)+r^2(-192R^3+34Rs^2)+r(8R^2s^2+3s^4))^2} \\
|X_{41}X_{46}|^2 &: - \left((4r^2R(-16R^5s^2+3R^3s^4+r^5(R^2-2s^2)+r^4(16R^3-17Rs^2)+r^3(96R^4-46R^2s^2+6s^4)+r^2(256R^5-65R^3s^2+11Rs^4)+r(256R^6-104R^4s^2+5R^2s^4))) / ((r-R)^2(r^3+8r^2R+16rR^2-3rs^2-2Rs^2))^2 \right) \\
|X_{41}X_{55}|^2 &: \frac{-r^2R^2(r^6+20r^5R-64R^4s^2+2r^4(80R^2+3s^2)+r^3(640R^3+44Rs^2)+r^2(1280R^4+60R^2s^2-11s^4)+8r(128R^5-12R^3s^2-Rs^4))}{(r+R)^2(r^3+8r^2R+16rR^2-3rs^2-2Rs^2)^2} \\
|X_{41}X_{56}|^2 &: \frac{r^2R^2(r+4R)^2(3r^4+20r^3R+4R^2s^2-s^4+2r^2(8R^2-7s^2)+r(-64R^3+20Rs^2))}{(r-R)^2(r^3+8r^2R+16rR^2-3rs^2-2Rs^2)^2}
\end{aligned}$$

$$|X_{41}X_{57}|^2: \\ - \left((4 r^2 R (r^6 R + r^5 (20 R^2 - 2 s^2) + 16 R^3 s^2 (-4 R^2 + s^2) + r^4 (160 R^3 - 23 R s^2) + 2 r^3 (320 R^4 - 56 R^2 s^2 + 3 s^4) + 4 r^2 (320 R^5 - 77 R^3 s^2 + 5 R s^4) + 8 r (128 R^6 - 52 R^4 s^2 + 3 R^2 s^4))) \right) / \left((r - 2 R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \right)$$

$$|X_{41}X_{58}|^2: \\ (4 r^2 R^2 (r^8 + 16 r^7 R + 4 R^2 s^6 - s^8 + r^6 (96 R^2 - 6 s^2) + 4 r^5 (64 R^3 - 9 R s^2) + 16 r^4 (16 R^4 - s^4) + 64 r^3 (3 R^3 s^2 - R s^4) + 10 r^2 (2 R^2 s^4 - s^6) + r (-64 R^3 s^4 + 20 R s^6))) / (3 r^5 + 28 r^4 R + 2 R s^4 + 10 r^3 (8 R^2 - s^2) + 3 r s^2 (-8 R^2 + s^2) + r^2 (64 R^3 - 26 R s^2))^2$$

$$|X_{41}X_{63}|^2: \\ - \left((R (r^8 R - 4 R^3 s^6 + 4 r^7 (5 R^2 - s^2) + r^6 (160 R^3 - 57 R s^2) + 16 r^5 (40 R^4 - 21 R^2 s^2 + s^4) + r^4 (1280 R^5 - 1012 R^3 s^2 + 127 R s^4) + 4 r^3 (256 R^6 - 360 R^4 s^2 + 91 R^2 s^4 - 3 s^6) + r^2 (-576 R^5 s^2 + 328 R^3 s^4 - 23 R s^6) + 16 r (6 R^4 s^4 - R^2 s^6))) \right) / \left((r + R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \right)$$

$$|X_{41}X_{65}|^2: \\ - \left((r^2 (2 r^7 + 37 r^6 R + 12 r^5 (23 R^2 - s^2) + 16 R^3 s^2 (-4 R^2 + s^2) + 6 r^4 (176 R^3 - 21 R s^2) + 2 r^3 (1088 R^4 - 230 R^2 s^2 + 9 s^4) + 3 r^2 (768 R^5 - 236 R^3 s^2 + 15 R s^4) + 8 r (128 R^6 - 60 R^4 s^2 + 5 R^2 s^4))) \right) / \left(R (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \right)$$

$$|X_{41}X_{69}|^2: \\ (-r^{12} - 28 r^{11} R + 4 R^2 s^{10} + 8 r R s^8 (-12 R^2 + s^2) - 80 r^9 R (28 R^2 + s^2) - r^{10} (336 R^2 + 5 s^2) + r^2 s^6 (448 R^4 - 128 R^2 s^2 + 3 s^4) + r^8 (-8960 R^4 - 508 R^2 s^2 + 58 s^4) - 16 r^7 (1344 R^5 + 108 R^3 s^2 - 43 R s^4) - 2 r^6 (14336 R^6 + 1984 R^4 s^2 - 1544 R^2 s^4 + 63 s^6) - 8 r^5 (2048 R^7 + 896 R^5 s^2 - 828 R^3 s^4 + 95 R s^6) + r^4 (-7168 R^6 s^2 + 6656 R^4 s^4 - 1416 R^2 s^6 + 71 s^8) + 4 r^3 (384 R^5 s^4 - 64 R^3 s^6 + 11 R s^8)) / (r^5 + 12 r^4 R + 2 R s^4 + r^3 (48 R^2 - 4 s^2) + 3 r s^2 (-8 R^2 + s^2) + r^2 (64 R^3 - 22 R s^2))^2$$

$$|X_{41}X_{72}|^2: \\ (-r^9 - 20 r^8 R + 4 R^3 s^6 + 12 r R^2 s^4 (-8 R^2 + s^2) + r^7 (-164 R^2 + 7 s^2) + r^6 (-704 R^3 + 95 R s^2) + r^5 (-1664 R^4 + 492 R^2 s^2 - 15 s^4) - 2 r^4 (1024 R^5 - 602 R^3 s^2 + 55 R s^4) + r^3 (-1024 R^6 + 1376 R^4 s^2 - 268 R^2 s^4 + 9 s^6) + r^2 (576 R^5 s^2 - 260 R^3 s^4 + 15 R s^6)) / (R (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2)$$

$$|X_{41}X_{75}|^2: \\ (-r^{12} - 28 r^{11} R + 4 R^2 s^{10} + 16 r^9 R (-140 R^2 + s^2) + 8 r R s^8 (-12 R^2 + s^2) - r^{10} (336 R^2 + s^2) + r^2 s^6 (704 R^4 - 176 R^2 s^2 + 3 s^4) + r^8 (-8960 R^4 + 452 R^2 s^2 + 6 s^4) - 32 r^7 (672 R^5 - 106 R^3 s^2 + 3 R s^4) - 2 r^6 (14336 R^6 - 5696 R^4 s^2 + 704 R^2 s^4 - 7 s^6) - 8 r^5 (2048 R^7 - 2176 R^5 s^2 + 668 R^3 s^4 - 37 R s^6) + r^4 (9216 R^6 s^2 - 7424 R^4 s^4 + 952 R^2 s^6 + 11 s^8) - 4 r^3 (896 R^5 s^4 - 336 R^3 s^6 + 17 R s^8)) / (r^5 + 12 r^4 R - 2 R s^4 + r^3 (48 R^2 - 2 s^2) + r^2 (64 R^3 - 6 R s^2) + r (8 R^2 s^2 - 3 s^4))^2$$

$$|X_{41}X_{76}|^2:$$

$$\begin{aligned} & (-r^{16} - 36 r^{15} R + 4 R^2 s^{14} + 8 r R s^{12} (-16 R^2 + s^2) - 56 r^{13} R (96 R^2 + s^2) - 3 r^{14} (192 R^2 + s^2) + \\ & r^{12} (-32 256 R^4 - 332 R^2 s^2 + 3 s^4) + r^2 s^{10} (1280 R^4 - 200 R^2 s^2 + 3 s^4) - \\ & 4 r^3 R s^8 (896 R^4 - 312 R^2 s^2 + 7 s^4) + r^{11} (-129 024 R^5 + 96 R^3 s^2 + 76 R s^4) + 8 r^5 R s^4 \\ & (8192 R^6 - 5184 R^4 s^2 + 752 R^2 s^4 - 13 s^6) + r^4 s^6 (-12 288 R^6 + 1664 R^4 s^2 - 340 R^2 s^4 + 17 s^6) + \\ & r^{10} (-344 064 R^6 + 9920 R^4 s^2 + 952 R^2 s^4 + 25 s^6) - \\ & 8 r^9 (73 728 R^7 - 6016 R^5 s^2 - 896 R^3 s^4 - 19 R s^6) + \\ & r^6 s^2 (16 384 R^8 + 120 832 R^6 s^2 - 40 768 R^4 s^4 + 1872 R^2 s^6 + 39 s^8) + \\ & r^8 (-589 824 R^8 + 101 376 R^6 s^2 + 32 768 R^4 s^4 - 1380 R^2 s^6 + 45 s^8) - \\ & 4 r^7 (65 536 R^9 - 22 528 R^7 s^2 - 21 760 R^5 s^4 + 3536 R^3 s^6 + 3 R s^8) \Big) / \\ & (r^7 + 16 r^6 R - 2 R s^6 + r^5 (96 R^2 - s^2) + 2 r^4 (128 R^3 - 9 R s^2) + \\ & r^3 (256 R^4 - 96 R^2 s^2 - 5 s^4) - 4 r^2 (40 R^3 s^2 - 7 R s^4) + r (32 R^2 s^4 - 3 s^6) \Big)^2 \end{aligned}$$

$$|X_{41}X_{78}|^2: \quad - \frac{R (r^2 + 4 r R - s^2)^2 (2 r^5 + 21 r^4 R - 4 R^3 s^2 + r^3 (76 R^2 - 6 s^2) + 7 r^2 (16 R^3 - R s^2) + 8 r (8 R^4 - R^2 s^2))}{(r - R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2}$$

$$|X_{41}X_{79}|^2:$$

$$\begin{aligned} & - \Big((4 r^2 (r^7 R - 144 R^6 s^2 - 21 R^4 s^4 + 14 R^2 s^6 + r^6 (22 R^2 + 8 s^2) + 3 r^5 (67 R^3 + 37 R s^2) + \\ & r^4 (976 R^4 + 570 R^2 s^2 - 32 s^4) + r^3 (2656 R^5 + 1268 R^3 s^2 - 237 R s^4) + r^2 (3840 R^6 + \\ & 951 R^4 s^2 - 526 R^2 s^4 + 24 s^6) + r (2304 R^7 - 264 R^5 s^2 - 309 R^3 s^4 + 37 R s^6) \Big) \Big) / \\ & \Big((2 r + 3 R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \Big) \end{aligned}$$

$$|X_{41}X_{80}|^2:$$

$$\begin{aligned} & (4 r^2 (r^7 + 18 r^6 R - 16 R^5 s^2 + 11 R^3 s^4 - 2 R s^6 + 3 r^5 (43 R^2 - 3 s^2) + r^4 (464 R^3 - 94 R s^2) + \\ & r^3 (864 R^4 - 334 R^2 s^2 + 19 s^4) + r^2 (768 R^5 - 465 R^3 s^2 + 62 R s^4) + \\ & r (256 R^6 - 232 R^4 s^2 + 57 R^2 s^4 - 3 s^6) \Big) \Big) / \Big((2 r - R) (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \Big) \end{aligned}$$

$$|X_{41}X_{81}|^2:$$

$$\begin{aligned} & - \Big((r^2 R (r^8 R - 36 R^3 s^6 + 8 R s^8 + r^7 (20 R^2 - 2 s^2) + r^6 (160 R^3 - 17 R s^2) + 2 r^5 (320 R^4 - 8 R^2 s^2 + \\ & s^4) + r^4 (1280 R^5 + 268 R^3 s^2 - 29 R s^4) + 2 r^3 (512 R^6 + 560 R^4 s^2 - 94 R^2 s^4 + 5 s^6) + \\ & r^2 (1472 R^5 s^2 - 184 R^3 s^4 - 3 R s^6) + 2 r (240 R^4 s^4 - 76 R^2 s^6 + 3 s^8) \Big) \Big) / \\ & \Big((r^5 + 9 r^4 R + 2 R s^4 + 4 r^3 (6 R^2 - s^2) + 3 r s^2 (-6 R^2 + s^2) + r^2 (16 R^3 - 13 R s^2) \Big)^2 \end{aligned}$$

$$|X_{41}X_{83}|^2:$$

$$\begin{aligned} & (-r^{16} - 36 r^{15} R + 4 R^2 s^{14} - 8 r R s^{12} (8 R^2 + s^2) - r^{14} (576 R^2 + 11 s^2) - 24 r^{13} (224 R^3 + 11 R s^2) + \\ & r^2 s^{10} (-256 R^4 + 280 R^2 s^2 - 21 s^4) + r^{12} (-32 256 R^4 - 2572 R^2 s^2 + 3 s^4) + \\ & 4 r^3 R s^8 (1152 R^4 - 680 R^2 s^2 + 129 s^4) - 4 r^{11} (32 256 R^5 + 3112 R^3 s^2 - 59 R s^4) - 40 r^5 R s^4 \\ & (2048 R^6 + 576 R^4 s^2 - 496 R^2 s^4 - 9 s^6) - r^4 s^6 (4096 R^6 - 11 904 R^4 s^2 + 4564 R^2 s^4 + 47 s^6) + \\ & r^{10} (-344 064 R^6 - 25 920 R^4 s^2 + 3416 R^2 s^4 + 81 s^6) - \\ & 8 r^9 (73 728 R^7 - 2432 R^5 s^2 - 2552 R^3 s^4 - 53 R s^6) + \\ & r^6 s^2 (278 528 R^8 - 51 200 R^6 s^2 - 52 544 R^4 s^4 + 3024 R^2 s^6 + 15 s^8) + \\ & r^8 (-589 824 R^8 + 216 064 R^6 s^2 + 55 296 R^4 s^4 - 3108 R^2 s^6 + 109 s^8) - \\ & 4 r^7 (65 536 R^9 - 104 448 R^7 s^2 - 12 032 R^5 s^4 + 6448 R^3 s^6 + 51 R s^8) \Big) / \\ & (5 r^7 + 80 r^6 R - 10 R s^6 + 3 r^5 (160 R^2 - 7 s^2) + 2 r^4 (640 R^3 - 109 R s^2) + \\ & r^3 (1280 R^4 - 736 R^2 s^2 + 23 s^4) + r^2 (-800 R^3 s^2 + 172 R s^4) + 5 r (32 R^2 s^4 - 3 s^6) \Big)^2 \end{aligned}$$

$|X_{41}X_{85}|^2:$

$$\begin{aligned} & \left(-r^{12} - 36 r^{11} R - 5376 r^9 R^3 + 4 R^2 s^{10} - r^{10} (576 R^2 + s^2) + 8 r R s^6 (64 R^4 - 24 R^2 s^2 + s^4) + \right. \\ & \quad r^8 (-32 256 R^4 + 340 R^2 s^2 + 6 s^4) - 32 r^7 (4032 R^5 - 143 R^3 s^2 - R s^4) + \\ & \quad r^6 (-344 064 R^6 + 27 840 R^4 s^2 - 496 R^2 s^4 + 14 s^6) - \\ & \quad 8 r^5 (73 728 R^7 - 11 392 R^5 s^2 + 672 R^3 s^4 - 39 R s^6) + \\ & \quad r^2 s^2 (16 384 R^8 - 12 288 R^6 s^2 + 3456 R^4 s^4 - 400 R^2 s^6 + 3 s^8) + \\ & \quad r^4 (-589 824 R^8 + 158 720 R^6 s^2 - 19 456 R^4 s^4 + 2024 R^2 s^6 + 11 s^8) - \\ & \quad \left. 4 r^3 (65 536 R^9 - 30 720 R^7 s^2 + 7168 R^5 s^4 - 1208 R^3 s^6 + 47 R s^8) \right) / \\ & \left(r^5 + 16 r^4 R + r^3 (96 R^2 - 2 s^2) - 2 R s^2 (16 R^2 + s^2) + \right. \\ & \quad \left. 2 r^2 (128 R^3 - 9 R s^2) + r (256 R^4 - 48 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

 $|X_{41}X_{86}|^2:$

$$\begin{aligned} & - \left((r^{12} + 28 r^{11} R - 4 R^2 s^{10} + 8 r R s^8 (-4 R^2 + s^2) + r^{10} (336 R^2 + 9 s^2) + 16 r^9 (140 R^3 + 11 R s^2) + \right. \\ & \quad 2 r^8 (4480 R^4 + 734 R^2 s^2 - 11 s^4) + r^2 s^6 (832 R^4 - 176 R^2 s^2 + 21 s^4) + \\ & \quad 16 r^7 (1344 R^5 + 428 R^3 s^2 - 11 R s^4) + 2 r^6 (14 336 R^6 + 9664 R^4 s^2 - 112 R^2 s^4 - 23 s^6) + \\ & \quad 8 r^5 (2048 R^7 + 3968 R^5 s^2 + 204 R^3 s^4 - 63 R s^6) + \\ & \quad \left. r^4 (23 552 R^6 s^2 + 6912 R^4 s^4 - 1272 R^2 s^6 + 5 s^8) + 4 r^3 (2432 R^5 s^4 - 240 R^3 s^6 - 43 R s^8) \right) / \\ & \left(r^5 + 12 r^4 R - 10 R s^4 + 2 r^3 (24 R^2 + s^2) + r^2 (64 R^3 + 26 R s^2) + 3 r (24 R^2 s^2 - 5 s^4) \right)^2 \end{aligned}$$

 $|X_{41}X_{88}|^2:$

$$\begin{aligned} & - \left((r^2 R (81 r^8 R - 4 R^3 s^6 + 18 r^7 (90 R^2 - 7 s^2) + 45 r^6 (288 R^3 - 29 R s^2) + \right. \\ & \quad r^5 (51 840 R^4 - 5904 R^2 s^2 + 382 s^4) + r^4 (103 680 R^5 - 17 460 R^3 s^2 + 571 R s^4) + \\ & \quad 2 r^3 (41 472 R^6 - 14 544 R^4 s^2 - 150 R^2 s^4 - 5 s^6) + \\ & \quad \left. r^2 (-9792 R^5 s^2 + 2536 R^3 s^4 + 165 R s^6) + r (352 R^4 s^4 - 72 R^2 s^6 - 6 s^8) \right) / \\ & \left(3 r^5 + 9 r^4 R - 2 R s^4 - 8 r^3 (9 R^2 + s^2) + r^2 (-240 R^3 + 47 R s^2) + r (46 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

 $|X_{41}X_{89}|^2:$

$$\begin{aligned} & - \left((r^2 R (81 r^8 R - 100 R^3 s^6 + 24 R s^8 + 180 r^7 (9 R^2 - s^2) + 9 r^6 (1440 R^3 - 229 R s^2) + \right. \\ & \quad r^5 (51 840 R^4 - 9360 R^2 s^2 + 484 s^4) + r^4 (103 680 R^5 - 20 916 R^3 s^2 + 1387 R s^4) + \\ & \quad 4 r^3 (20 736 R^6 - 3816 R^4 s^2 - 237 R^2 s^4 + 41 s^6) + \\ & \quad \left. r^2 (17 856 R^5 s^2 - 6632 R^3 s^4 + 417 R s^6) + 4 r (40 R^4 s^4 - 36 R^2 s^6 + 3 s^8) \right) / \\ & \left(6 r^5 + 45 r^4 R + 4 R s^4 + 4 r^3 (18 R^2 - 5 s^2) - r^2 (48 R^3 + 19 R s^2) + r (-26 R^2 s^2 + 6 s^4) \right)^2 \end{aligned}$$

 $|X_{41}X_{99}|^2:$

$$\begin{aligned} & \left(-r^{12} - 28 r^{11} R - 2240 r^9 R^3 + 4 R^2 s^{10} + \right. \\ & \quad 8 r R s^8 (-12 R^2 + s^2) - r^{10} (336 R^2 + s^2) + r^2 s^6 (448 R^4 - 144 R^2 s^2 + 3 s^4) + \\ & \quad r^8 (-8960 R^4 + 132 R^2 s^2 + 6 s^4) + r^7 (-21 504 R^5 + 832 R^3 s^2 + 48 R s^4) - \\ & \quad 8 r^5 R (2048 R^6 + 384 R^4 s^2 - 268 R^2 s^4 + s^6) + r^6 (-28 672 R^6 + 1152 R^4 s^2 + 352 R^2 s^4 + 14 s^6) + \\ & \quad \left. r^4 (-7168 R^6 s^2 + 4864 R^4 s^4 - 264 R^2 s^6 + 11 s^8) + 4 r^3 (384 R^5 s^4 + 32 R^3 s^6 - 5 R s^8) \right) / \\ & \left((r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$|X_{41}X_{141}|^2:$

$$\begin{aligned} & (-r^{12} - 28 r^{11} R + 4 R^2 s^{10} + 4 r R s^8 (-20 R^2 + s^2) - 7 r^{10} (48 R^2 + s^2) - 4 r^9 (560 R^3 + 29 R s^2) + \\ & r^2 s^6 (144 R^4 - 28 R^2 s^2 - 3 s^4) + r^8 (-8960 R^4 - 748 R^2 s^2 + 62 s^4) - \\ & 16 r^7 (1344 R^5 + 148 R^3 s^2 - 47 R s^4) - 2 r^6 (14336 R^6 + 1984 R^4 s^2 - 1674 R^2 s^4 + 59 s^6) - \\ & 16 r^5 (1024 R^7 + 256 R^5 s^2 - 418 R^3 s^4 + 51 R s^6) + \\ & r^4 (-3072 R^6 s^2 + 5952 R^4 s^4 - 1648 R^2 s^6 + 67 s^8) + 4 r^3 (512 R^5 s^4 - 188 R^3 s^6 + 35 R s^8) \Big) / \\ & \left(4 (r^5 + 12 r^4 R + 2 R s^4 + r^3 (48 R^2 - 4 s^2) + 3 r s^2 (-8 R^2 + s^2) + r^2 (64 R^3 - 22 R s^2)) \right)^2 \end{aligned}$$

 $|X_{41}X_{142}|^2:$

$$\begin{aligned} & - \left((r^{10} + 28 r^9 R + 16 r R^3 s^6 - 16 R^4 s^6 + 7 r^8 (48 R^2 + s^2) + 4 r^7 (560 R^3 + 29 R s^2) + r^6 \right. \\ & (8960 R^4 + 748 R^2 s^2 - 37 s^4) + 4 r^5 (5376 R^5 + 592 R^3 s^2 - 99 R s^4) + \\ & r^4 (28672 R^6 + 3968 R^4 s^2 - 1444 R^2 s^4 + 21 s^6) + \\ & 4 r^3 (4096 R^7 + 1024 R^5 s^2 - 504 R^3 s^4 + 23 R s^6) + 16 r^2 (192 R^6 s^2 - 52 R^4 s^4 + 7 R^2 s^6) \Big) / \\ & \left(4 (r + 4 R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \right) \end{aligned}$$

 $|X_{41}X_{145}|^2:$

$$\begin{aligned} & (7 r^8 + 76 r^7 R + 4 R^2 s^6 + r^6 (96 R^2 - 35 s^2) + 16 r R s^4 (-10 R^2 + s^2) - 32 r^5 (52 R^3 + 3 R s^2) + \\ & r^4 (-7424 R^4 + 1044 R^2 s^2 + 37 s^4) - 4 r^3 (2304 R^5 - 1000 R^3 s^2 + 71 R s^4) + \\ & r^2 (2112 R^4 s^2 - 472 R^2 s^4 + 15 s^6) \Big) / (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \end{aligned}$$

 $|X_{41}X_{190}|^2:$

$$\begin{aligned} & (-r^{12} - 28 r^{11} R + 4 R^2 s^{10} + 8 r R s^8 (-20 R^2 + s^2) + r^{10} (-336 R^2 + 15 s^2) - 32 r^9 (70 R^3 - 11 R s^2) + \\ & r^2 s^6 (2240 R^4 - 304 R^2 s^2 + 3 s^4) - 2 r^8 (4480 R^4 - 1666 R^2 s^2 + 5 s^4) - \\ & 16 r^7 (1344 R^5 - 1012 R^3 s^2 + 41 R s^4) - 2 r^6 (14336 R^6 - 21056 R^4 s^2 + 2944 R^2 s^4 + 33 s^6) - \\ & 8 r^5 (2048 R^7 - 6784 R^5 s^2 + 2372 R^3 s^4 - 107 R s^6) + \\ & r^4 (25600 R^6 s^2 - 24320 R^4 s^4 + 2680 R^2 s^6 - 37 s^8) - 4 r^3 (3200 R^5 s^4 - 1040 R^3 s^6 + 37 R s^8) \Big) / \\ & (3 r^5 + 36 r^4 R + 2 R s^4 + 2 r^3 (72 R^2 - 5 s^2) + 2 r^2 (96 R^3 - 25 R s^2) + r (-40 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

 $|X_{41}X_{192}|^2:$

$$\begin{aligned} & (-r^{12} - 28 r^{11} R + 4 R^2 s^{10} + 16 r R s^8 (-12 R^2 + s^2) + r^{10} (-336 R^2 + 11 s^2) - 280 r^9 (8 R^3 - R s^2) - \\ & 2 r^8 (4480 R^4 - 1426 R^2 s^2 + 5 s^4) + r^2 s^6 (3200 R^4 - 592 R^2 s^2 + 15 s^4) - \\ & 64 r^7 (336 R^5 - 233 R^3 s^2 + 9 R s^4) - 2 r^6 (14336 R^6 - 21056 R^4 s^2 + 2768 R^2 s^4 + 21 s^6) - \\ & 8 r^5 (2048 R^7 - 7552 R^5 s^2 + 2560 R^3 s^4 - 91 R s^6) + \\ & r^4 (33792 R^6 s^2 - 32768 R^4 s^4 + 3992 R^2 s^6 - 5 s^8) - 4 r^3 (5120 R^5 s^4 - 1808 R^3 s^6 + 105 R s^8) \Big) / \\ & (r^5 + 12 r^4 R - 2 R s^4 + r^3 (48 R^2 - 2 s^2) + r^2 (64 R^3 - 6 R s^2) + r (8 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

$$\begin{aligned}
|X_{41}X_{194}|^2: & \quad (-r^{16} - 36 r^{15} R + 4 R^2 s^{14} + 9 r^{14} (-64 R^2 + s^2) + \\
& 16 r R s^{12} (-10 R^2 + s^2) + r^{13} (-5376 R^3 + 272 R s^2) - 4 r^{11} R (32 256 R^4 - 6072 R^2 s^2 + s^4) + \\
& 5 r^2 s^{10} (448 R^4 - 104 R^2 s^2 + 3 s^4) + r^{12} (-32 256 R^4 + 3476 R^2 s^2 + 11 s^4) - \\
& 4 r^3 R s^8 (3072 R^4 - 1336 R^2 s^2 + 91 s^4) + 16 r^5 R s^4 (5632 R^6 - 2880 R^4 s^2 + 212 R^2 s^4 - 11 s^6) + \\
& r^4 s^6 (11 264 R^6 - 15 360 R^4 s^2 + 2252 R^2 s^4 + 25 s^6) - \\
& r^{10} (344 064 R^6 - 99 520 R^4 s^2 + 1224 R^2 s^4 + 51 s^6) - \\
& 16 r^9 (36 864 R^7 - 14 656 R^5 s^2 + 282 R^3 s^4 + 23 R s^6) - \\
& 3 r^8 (196 608 R^8 - 91 136 R^6 s^2 - 6656 R^4 s^4 + 1228 R^2 s^6 + 33 s^8) - \\
& 4 r^7 (65 536 R^9 - 14 336 R^7 s^2 - 35 328 R^5 s^4 + 7024 R^3 s^6 - 37 R s^8) + \\
& r^6 (-114 688 R^8 s^2 + 243 712 R^6 s^4 - 76 160 R^4 s^6 + 4368 R^2 s^8 - 37 s^{10}) \Big) / \\
& (r^7 + 16 r^6 R - 2 R s^6 + r^5 (96 R^2 - s^2) + 2 r^4 (128 R^3 - 9 R s^2) + \\
& r^3 (256 R^4 - 96 R^2 s^2 - 5 s^4) - 4 r^2 (40 R^3 s^2 - 7 R s^4) + r (32 R^2 s^4 - 3 s^6))^2
\end{aligned}$$

$$\begin{aligned}
|X_{41}X_{200}|^2: & \quad - \Big((4 R (r^8 R - 4 R^3 s^6 + r^7 (20 R^2 - s^2) + 4 r^6 (40 R^3 - 3 R s^2) + 4 r^5 (160 R^4 - 21 R^2 s^2 + s^4) + \\
& 2 r^4 (640 R^5 - 194 R^3 s^2 + 9 R s^4) + r^3 (1024 R^6 - 864 R^4 s^2 + 80 R^2 s^4 - 3 s^6) + \\
& r^2 (-576 R^5 s^2 + 168 R^3 s^4 - 5 R s^6) + r (96 R^4 s^4 - 8 R^2 s^6)) \Big) / \\
& \Big((r - 2 R)^2 (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \Big)
\end{aligned}$$

$$\begin{aligned}
|X_{41}X_{210}|^2: & \quad (-r^8 R + 16 R^3 s^6 + 32 r R^2 s^4 (-10 R^2 + s^2) + r^7 (-20 R^2 + 2 s^2) + r^6 (-160 R^3 + 30 R s^2) - \\
& 4 r^5 (160 R^4 - 53 R^2 s^2 + 3 s^4) + r^4 (-1280 R^5 + 836 R^3 s^2 - 89 R s^4) - \\
& 2 r^3 (512 R^6 - 816 R^4 s^2 + 160 R^2 s^4 - 9 s^6) + 8 r^2 (136 R^5 s^2 - 70 R^3 s^4 + 3 R s^6) \Big) / \\
& \Big(9 R (r^3 + 8 r^2 R + 16 r R^2 - 3 r s^2 - 2 R s^2)^2 \Big)
\end{aligned}$$

$$\begin{aligned}
|X_{41}X_{213}|^2: & \quad - \Big((4 r^2 R^2 s^4 (r^8 + 20 r^7 R - 4 R^2 s^6 + s^8 + 4 r^6 (40 R^2 + s^2) + 4 r^5 (160 R^3 + 3 R s^2) + 4 \\
& r^2 s^2 (-144 R^4 + 38 R^2 s^2 + s^4) + 2 r^4 (640 R^4 - 66 R^2 s^2 + 3 s^4) + \\
& 4 r^3 (256 R^5 - 152 R^3 s^2 + 23 R s^4) + 4 r (24 R^3 s^4 - 7 R s^6)) \Big) / \\
& (r^7 + 16 r^6 R + 2 R s^6 + r^5 (96 R^2 - 3 s^2) + 3 r s^4 (-8 R^2 + s^2) + r^4 (256 R^3 - 22 R s^2) + \\
& r^3 (256 R^4 - 32 R^2 s^2 - s^4) + 4 r^2 (8 R^3 s^2 - 5 R s^4))^2
\end{aligned}$$

$$\begin{aligned}
|X_{41}X_{238}|^2: & \quad - \Big((4 r^2 R (r^9 + 24 r^8 R + 240 r^7 R^2 - R s^8 + r^6 (1280 R^3 - R s^2) + 2 r^5 (1920 R^4 - 8 R^2 s^2 - 3 s^4) + \\
& r^4 (6144 R^5 - 96 R^3 s^2 - 43 R s^4) + 8 r^3 (512 R^6 - 32 R^4 s^2 - 7 R^2 s^4 - s^6) + \\
& r^2 (-256 R^5 s^2 + 80 R^3 s^4 + 45 R s^6) + r (8 R^2 s^6 - 3 s^8)) \Big) / \\
& (3 r^5 + 36 r^4 R + 2 R s^4 + 2 r^3 (72 R^2 - 5 s^2) + 2 r^2 (96 R^3 - 25 R s^2) + r (-40 R^2 s^2 + 3 s^4))^2
\end{aligned}$$

$|X_{41}X_{239}|^2:$

$$\begin{aligned} & - \left((r^{12} + 28 r^{11} R - 4 R^2 s^{10} + 16 r R s^8 (8 R^2 - s^2) + 56 r^9 R (40 R^2 + s^2) + r^{10} (336 R^2 + 5 s^2) + \right. \\ & \quad r^8 (8960 R^4 + 28 R^2 s^2 - 6 s^4) + 48 r^7 R (448 R^4 - 44 R^2 s^2 + s^4) + \\ & \quad 2 r^6 (14336 R^6 - 5696 R^4 s^2 + 560 R^2 s^4 - 19 s^6) + \\ & \quad 8 r^5 (2048 R^7 - 2944 R^5 s^2 + 696 R^3 s^4 - 29 R s^6) - \\ & \quad r^4 (17408 R^6 s^2 - 10752 R^4 s^4 + 984 R^2 s^6 + 43 s^8) + \\ & \quad \left. 4 r^3 (1792 R^5 s^4 - 752 R^3 s^6 + 61 R s^8) + r^2 (-1408 R^4 s^6 + 400 R^2 s^8 - 15 s^{10}) \right) / \\ & \quad (3 r^5 + 36 r^4 R + 2 R s^4 + 2 r^3 (72 R^2 - 5 s^2) + 2 r^2 (96 R^3 - 25 R s^2) + r (-40 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

 $|X_{41}X_{244}|^2:$

$$\begin{aligned} & - \left((4 r^2 R (4 r^9 + 105 r^8 R - 4 R^3 s^6 + R s^8 + 12 r^7 (95 R^2 - 3 s^2) + 20 r^6 (328 R^3 - 25 R s^2) + \right. \\ & \quad 4 r^5 (5280 R^4 - 713 R^2 s^2 + 19 s^4) + r^4 (36096 R^5 - 8292 R^3 s^2 + 334 R s^4) + \\ & \quad 4 r^3 (6400 R^6 - 2840 R^4 s^2 + 187 R^2 s^4 - 3 s^6) - \\ & \quad \left. 4 r^2 (1040 R^5 s^2 - 318 R^3 s^4 + 5 R s^6) + 4 r (56 R^4 s^4 - 15 R^2 s^6) \right) / \\ & \quad (r^5 - 6 r^4 R - 2 R s^4 - 2 r^3 (48 R^2 + s^2) + r^2 (-224 R^3 + 48 R s^2) + r (44 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

 $|X_{41}X_{304}|^2:$

$$\begin{aligned} & (-r^{16} - 36 r^{15} R + 4 R^2 s^{14} + r^{14} (-576 R^2 + s^2) + 8 r R s^{12} (-16 R^2 + s^2) - 56 r^{13} (96 R^3 - R s^2) + \\ & \quad r^2 s^{10} (1280 R^4 - 216 R^2 s^2 + 3 s^4) + r^{12} (-32256 R^4 + 1012 R^2 s^2 + 7 s^4) - \\ & \quad 4 r^3 R s^8 (1152 R^4 - 472 R^2 s^2 + 15 s^4) - 4 r^{11} (32256 R^5 - 2264 R^3 s^2 + 13 R s^4) - \\ & \quad 8 r^5 R s^4 (8192 R^6 - 6336 R^4 s^2 + 1360 R^2 s^4 - 45 s^6) + \\ & \quad r^{10} (-344064 R^6 + 45760 R^4 s^2 - 2264 R^2 s^4 + s^6) + \\ & \quad r^4 s^6 (12288 R^6 - 9344 R^4 s^2 + 876 R^2 s^4 + 5 s^6) - \\ & \quad 8 r^9 (73728 R^7 - 16768 R^5 s^2 + 2400 R^3 s^4 - 75 R s^6) + \\ & \quad r^8 (-589824 R^8 + 216064 R^6 s^2 - 74240 R^4 s^4 + 7068 R^2 s^6 - 11 s^8) + \\ & \quad r^6 s^2 (16384 R^8 - 145408 R^6 s^2 + 60096 R^4 s^4 - 5392 R^2 s^6 - 5 s^8) - \\ & \quad \left. 4 r^7 (65536 R^9 - 38912 R^7 s^2 + 36608 R^5 s^4 - 7696 R^3 s^6 + 219 R s^8) \right) / \\ & \quad (r^7 + 16 r^6 R + 2 R s^6 + r^5 (96 R^2 - 3 s^2) + 2 r^4 (128 R^3 - 9 R s^2) + \\ & \quad r^3 (256 R^4 - s^4) + 32 r^2 (3 R^3 s^2 - R s^4) + r (-32 R^2 s^4 + 3 s^6))^2 \end{aligned}$$

 $|X_{41}X_{306}|^2:$

$$\begin{aligned} & - \left((r^{12} + 24 r^{11} R - 4 R^2 s^{10} - 8 r R s^8 (-14 R^2 + s^2) + r^{10} (244 R^2 + 13 s^2) + 40 r^9 (34 R^3 + 5 R s^2) + \right. \\ & \quad 2 r^8 (2240 R^4 + 644 R^2 s^2 - 41 s^4) + 8 r^3 R s^4 (112 R^4 - 94 R^2 s^2 + s^4) - \\ & \quad r^2 s^6 (848 R^4 - 176 R^2 s^2 + 3 s^4) + 16 r^7 (544 R^5 + 285 R^3 s^2 - 50 R s^4) + \\ & \quad 2 r^6 (4608 R^6 + 4792 R^4 s^2 - 1474 R^2 s^4 + 59 s^6) + \\ & \quad 32 r^5 (128 R^7 + 356 R^5 s^2 - 149 R^3 s^4 + 18 R s^6) + \\ & \quad \left. r^4 (5888 R^6 s^2 - 2464 R^4 s^4 + 604 R^2 s^6 - 47 s^8) \right) / \\ & \quad (3 r^5 + 30 r^4 R + 2 R s^4 + 2 r^3 (48 R^2 - 5 s^2) + 32 r^2 (3 R^3 - R s^2) + r (-28 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$$|X_{41}X_{312}|^2:$$

$$\begin{aligned} & \left(-r^{12} - 20 r^{11} R + 4 R^2 s^{10} + 8 r R s^8 (-16 R^2 + s^2) + 64 r^9 R (-10 R^2 + s^2) - r^{10} (160 R^2 + s^2) + \right. \\ & \quad r^2 s^6 (1280 R^4 - 208 R^2 s^2 + 3 s^4) + r^8 (-1280 R^4 + 820 R^2 s^2 + 6 s^4) - \\ & \quad 32 r^7 (32 R^5 - 109 R^3 s^2 + 8 R s^4) + 2 r^6 (3104 R^4 s^2 - 680 R^2 s^4 + 7 s^6) + \\ & \quad 8 r^5 (512 R^5 s^2 - 280 R^3 s^4 + 15 R s^6) + r^4 (-3840 R^4 s^4 + 264 R^2 s^6 + 11 s^8) - \\ & \quad \left. 4 r^3 (1024 R^5 s^4 - 392 R^3 s^6 + 11 R s^8) \right) / \\ & \left(r^5 - 2 R s^4 - 2 r^3 (24 R^2 + s^2) + r^2 (-128 R^3 + 30 R s^2) + r (32 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

$$|X_{41}X_{319}|^2:$$

$$\begin{aligned} & - \left((r^{12} + 28 r^{11} R - 36 R^2 s^{10} + 72 r R s^8 (12 R^2 - s^2) + r^{10} (336 R^2 + 9 s^2) + 16 r^9 (140 R^3 + 11 R s^2) + \right. \\ & \quad 2 r^8 (4480 R^4 + 734 R^2 s^2 - 67 s^4) - 3 r^2 s^6 (1600 R^4 - 432 R^2 s^2 + 9 s^4) + \\ & \quad 32 r^7 (672 R^5 + 214 R^3 s^2 - 57 R s^4) + 2 r^6 (14336 R^6 + 9664 R^4 s^2 - 4688 R^2 s^4 + 225 s^6) + \\ & \quad 8 r^5 (2048 R^7 + 3968 R^5 s^2 - 2708 R^3 s^4 + 395 R s^6) + r^4 \\ & \quad \left. (23552 R^6 s^2 - 18688 R^4 s^4 + 5416 R^2 s^6 - 459 s^8) + 12 r^3 (128 R^5 s^4 - 208 R^3 s^6 - 5 R s^8) \right) / \\ & \left(r^5 + 12 r^4 R + 6 R s^4 + 6 r^3 (8 R^2 - s^2) + r^2 (64 R^3 - 38 R s^2) + r (-56 R^2 s^2 + 9 s^4) \right)^2 \end{aligned}$$

$$|X_{41}X_{320}|^2:$$

$$\begin{aligned} & \left(-9 r^{12} - 252 r^{11} R + 4 R^2 s^{10} + 8 r R s^8 (-12 R^2 + s^2) - 3 r^{10} (1008 R^2 + 11 s^2) - \right. \\ & \quad 144 r^9 (140 R^3 + 3 R s^2) - 18 r^8 (4480 R^4 + 94 R^2 s^2 - 19 s^4) + r^2 s^6 (192 R^4 - 80 R^2 s^2 + 3 s^4) - \\ & \quad 32 r^7 (6048 R^5 + 6 R^3 s^2 - 109 R s^4) - 2 r^6 (129024 R^6 - 5184 R^4 s^2 - 6256 R^2 s^4 + 265 s^6) - \\ & \quad 24 r^5 (6144 R^7 - 384 R^5 s^2 - 860 R^3 s^4 + 97 R s^6) + r^4 \\ & \quad \left. (-15360 R^6 s^2 + 19712 R^4 s^4 - 4008 R^2 s^6 + 131 s^8) + 4 r^3 (1664 R^5 s^4 - 464 R^3 s^6 + 39 R s^8) \right) / \\ & \left(3 r^5 + 36 r^4 R + 2 R s^4 + 2 r^3 (72 R^2 - 5 s^2) + 2 r^2 (96 R^3 - 25 R s^2) + r (-40 R^2 s^2 + 3 s^4) \right)^2 \end{aligned}$$

$$|X_{41}X_{321}|^2:$$

$$\begin{aligned} & - \left((r^{12} + 24 r^{11} R - 4 R^2 s^{10} + 8 r R s^8 (14 R^2 - s^2) + r^{10} (244 R^2 + s^2) + 40 r^9 (34 R^3 - R s^2) + \right. \\ & \quad r^8 (4480 R^4 - 680 R^2 s^2 - 6 s^4) + 16 r^7 (544 R^5 - 243 R^3 s^2 + 11 R s^4) + \\ & \quad 2 r^6 (4608 R^6 - 5192 R^4 s^2 + 782 R^2 s^4 - 7 s^6) + 16 r^5 \\ & \quad \left. (256 R^7 - 824 R^5 s^2 + 278 R^3 s^4 - 13 R s^6) - r^4 (6400 R^6 s^2 - 5920 R^4 s^4 + 644 R^2 s^6 + 11 s^8) + \right. \\ & \quad 8 r^3 (464 R^5 s^4 - 182 R^3 s^6 + 7 R s^8) + r^2 (-976 R^4 s^6 + 192 R^2 s^8 - 3 s^{10}) \left. \right) / \\ & \left(r^5 + 6 r^4 R - 2 r^3 s^2 - 2 R s^4 - 4 r^2 (8 R^3 - 3 R s^2) + r (20 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

$$|X_{41}X_{345}|^2:$$

$$\begin{aligned} & - \left((r^{12} + 20 r^{11} R - 4 R^2 s^{10} - 8 r R s^8 (-16 R^2 + s^2) + r^{10} (160 R^2 + 21 s^2) + 32 r^9 (20 R^3 + 9 R s^2) + \right. \\ & \quad 2 r^8 (640 R^4 + 806 R^2 s^2 - 53 s^4) - r^2 s^6 (1280 R^4 - 224 R^2 s^2 + 3 s^4) + \\ & \quad 16 r^7 (64 R^5 + 294 R^3 s^2 - 49 R s^4) + 2 r^6 (3552 R^4 s^2 - 896 R^2 s^4 + 55 s^6) + \\ & \quad 8 r^5 (512 R^5 s^2 + 37 R s^6) + r^4 (4352 R^4 s^4 - 392 R^2 s^6 - 23 s^8) + \\ & \quad \left. 4 r^3 (1024 R^5 s^4 - 472 R^3 s^6 + 15 R s^8) \right) / \\ & \left(5 r^5 + 48 r^4 R + 2 R s^4 + 16 r^3 (9 R^2 - s^2) + 2 r^2 (64 R^3 - 21 R s^2) + r (-32 R^2 s^2 + 3 s^4) \right)^2 \end{aligned}$$

$$|X_{41}X_{346}|^2:$$

$$\begin{aligned} & \left(s^4 (11 r^8 + 100 r^7 R + 4 R^2 s^6 + 3 r^6 (48 R^2 - 13 s^2) + \right. \\ & \quad 8 r R s^4 (-16 R^2 + s^2) - 8 r^5 (136 R^3 + 11 R s^2) + r^4 (-4096 R^4 + 324 R^2 s^2 + 17 s^4) - \\ & \quad \left. 4 r^3 (1024 R^5 - 432 R^3 s^2 + 13 R s^4) + r^2 (1280 R^4 s^2 - 216 R^2 s^4 + 3 s^6) \right) / \\ & \left(2 r^5 + 24 r^4 R + 2 R s^4 + r^3 (96 R^2 - 7 s^2) + 4 r^2 (32 R^3 - 9 R s^2) + r (-32 R^2 s^2 + 3 s^4) \right)^2 \end{aligned}$$

$$\begin{aligned}
& |X_{41}X_{350}|^2: \\
& \left(-r^{16} - 36 r^{15} R + 4 R^2 s^{14} + 8 r R s^{12} (-16 R^2 + s^2) - 3 r^{14} (192 R^2 + s^2) - 8 r^{13} (672 R^3 + 5 R s^2) + \right. \\
& \quad r^2 s^{10} (1024 R^4 - 168 R^2 s^2 + 3 s^4) + r^{12} (-32 256 R^4 + 116 R^2 s^2 + 3 s^4) + \\
& \quad 4 r^3 R s^8 (640 R^4 + 8 R^2 s^2 + 5 s^4) + r^{11} (-129 024 R^5 + 5472 R^3 s^2 + 60 R s^4) - \\
& \quad 8 r^5 R s^4 (2048 R^6 + 6080 R^4 s^2 - 1240 R^2 s^4 + 3 s^6) + \\
& \quad r^4 s^6 (-40 960 R^6 + 13 440 R^4 s^2 - 1364 R^2 s^4 + 17 s^6) + \\
& \quad r^{10} (-344 064 R^6 + 45 760 R^4 s^2 + 408 R^2 s^4 + 25 s^6) - \\
& \quad 8 r^9 (73 728 R^7 - 23 936 R^5 s^2 - 88 R^3 s^4 - 7 R s^6) + \\
& \quad r^6 s^2 (278 528 R^8 - 34 816 R^6 s^2 - 33 856 R^4 s^4 + 1360 R^2 s^6 + 39 s^8) + \\
& \quad r^8 (-589 824 R^8 + 445 440 R^6 s^2 - 4096 R^4 s^4 - 1828 R^2 s^6 + 45 s^8) - \\
& \quad \left. 4 r^7 (65 536 R^9 - 137 216 R^7 s^2 + 5376 R^5 s^4 + 3168 R^3 s^6 + 11 R s^8) \right) / \\
& \left(r^7 + 16 r^6 R - 2 R s^6 + r^5 (96 R^2 - s^2) + r^4 (256 R^3 - 26 R s^2) + \right. \\
& \quad \left. r^3 (256 R^4 - 160 R^2 s^2 - 5 s^4) + r^2 (-288 R^3 s^2 + 52 R s^4) + r (48 R^2 s^4 - 3 s^6) \right)^2 \\
& |X_{42}X_{43}|^2: \quad \frac{4 r^2 R^2 (5 r^2 - 16 r R + s^2) (r^2 + 4 r R + s^2)^2}{(r^4 - 10 r^3 R - 10 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2} \\
& |X_{42}X_{44}|^2: \\
& \quad - \frac{4 r^2 R (9 r^6 R - 4 R s^6 + 6 r^5 (18 R^2 - s^2) + 6 r^4 (72 R^3 + 17 R s^2) + 12 r^3 (48 R^4 + 29 R^2 s^2 - s^4) + r^2 (348 R^3 s^2 + 25 R s^4) + r (40 R^2 s^4 - 6 s^6))}{(3 r^4 + 6 r^3 R + 14 r R s^2 - s^4 + r^2 (-24 R^2 + 2 s^2))^2} \\
& |X_{42}X_{45}|^2: \\
& \quad - \frac{4 r^2 R (9 r^6 R - 16 R s^6 + 12 r^5 (9 R^2 - s^2) + 6 r^4 (72 R^3 + 13 R s^2) + 12 r^3 (48 R^4 + 37 R^2 s^2 - 2 s^4) + r^2 (732 R^3 s^2 + 37 R s^4) + 4 r (52 R^2 s^4 - 3 s^6))}{(3 r^4 + 6 r^3 R + 10 r R s^2 + s^4 + 4 r^2 (-6 R^2 + s^2))^2} \\
& |X_{42}X_{46}|^2: \quad - \frac{4 r^2 R (r^5 + 3 r^4 R - R^3 s^2 + r^3 (-6 R^2 + 2 s^2) + r^2 (-13 R^3 + 7 R s^2) + r (16 R^4 - 10 R^2 s^2 + s^4))}{(r - R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{55}|^2: \quad - \frac{r^2 R^2 (r^4 + 12 r^3 R - 4 R^2 s^2 - 3 s^4 + 2 r^2 (24 R^2 + 7 s^2) + 4 r (16 R^3 + 7 R s^2))}{(r + R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{56}|^2: \quad - \frac{r^2 R^2 (5 r^4 + 28 r^3 R - 4 R^2 s^2 + s^4 + r^2 (-96 R^2 + 22 s^2) + 4 r (16 R^3 - 5 R s^2))}{(r - R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{57}|^2: \quad - \frac{4 r^2 R (r^5 + 4 r^4 R - 4 R^3 s^2 + R s^4 + 2 r^3 (-6 R^2 + s^2) + r^2 (-32 R^3 + 9 R s^2) + r (64 R^4 - 24 R^2 s^2 + s^4))}{(r - 2 R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{58}|^2: \quad - \frac{16 r^4 R^2 (2 r^4 + 16 r^3 R + 16 r R (R^2 + s^2) - s^2 (R^2 + 2 s^2) + r^2 (27 R^2 + 16 s^2))}{(-3 r^4 + 2 r^3 R - 6 r R s^2 + s^4 + r^2 (8 R^2 - 2 s^2))^2} \\
& |X_{42}X_{63}|^2: \quad \frac{R (-2 r^7 - 15 r^6 R - 17 r^2 R s^4 + R s^6 + 2 r s^4 (-8 R^2 + s^2) - 2 r^5 (12 R^2 + s^2) + r^4 (16 R^3 - 49 R s^2) + r^3 (-56 R^2 s^2 + 2 s^4))}{(r + R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{65}|^2: \quad - \frac{r^2 (2 r^5 - 7 r^4 R - 4 R^3 s^2 + R s^4 + 4 r^3 (-5 R^2 + s^2) + r^2 (32 R^3 - 6 R s^2) + 2 r (32 R^4 - 14 R^2 s^2 + s^4))}{R (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{69}|^2: \quad \frac{1}{(r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2} \\
& \quad (r^{10} + 16 r^9 R + 64 r^7 R^3 - 16 r R s^8 + s^{10} + r^8 (80 R^2 - 7 s^2) - 64 r^5 R (16 R^4 - 7 R^2 s^2 + s^4) - \\
& \quad 2 r^6 (256 R^4 - 56 R^2 s^2 + 5 s^4) + 2 r^4 (32 R^4 s^2 + 8 R^2 s^4 + 3 s^6) + \\
& \quad 64 r^3 (4 R^3 s^4 - R s^6) + r^2 (-16 R^2 s^6 + 9 s^8)) \\
& |X_{42}X_{72}|^2: \quad \frac{-r^7 - 2 r^6 R - r^5 s^2 - 8 r^2 R s^4 + R s^6 + r^4 (4 R^3 - 11 R s^2) + r^3 (-8 R^2 s^2 + s^4) + r (-16 R^2 s^4 + s^6)}{R (r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{75}|^2: \quad (r^{10} + 16 r^9 R - 256 r^3 R^3 s^4 - 16 r R s^8 + s^{10} + 64 r^7 R (R^2 + s^2) + 5 r^8 (16 R^2 + s^2) + \\
& \quad r^6 (-512 R^4 + 48 R^2 s^2 + 10 s^4) - 64 r^5 (16 R^5 + R^3 s^2 - R s^4) + 2 r^4 (32 R^4 s^2 - 8 R^2 s^4 + 5 s^6) + \\
& \quad r^2 (16 R^2 s^6 + 5 s^8)) / (r^4 + 2 r^3 R + 2 r R s^2 + s^4 + r^2 (-8 R^2 + 2 s^2))^2
\end{aligned}$$

$$|X_{42}X_{76}|^2:$$

$$\begin{aligned} & (r^{14} + 24 r^{13} R - 24 r R s^{12} + s^{14} + 32 r^3 R s^8 (4 R^2 - 3 s^2) + 96 r^{11} R (10 R^2 + s^2) + 7 r^{12} (32 R^2 + s^2) + \\ & r^2 s^{10} (128 R^2 + 7 s^2) + r^{10} (1280 R^4 + 384 R^2 s^2 + 21 s^4) - 8 r^9 (512 R^5 - 56 R^3 s^2 - 15 R s^4) - \\ & 64 r^7 (256 R^7 - 120 R^5 s^2 + 13 R^3 s^4) + r^8 (-16384 R^6 + 1344 R^4 s^2 + 192 R^2 s^4 + 35 s^6) + \\ & r^6 (9216 R^6 s^2 - 1152 R^4 s^4 + 256 R^2 s^6 + 35 s^8) + \\ & 8 r^5 (320 R^5 s^4 - 24 R^3 s^6 - 15 R s^8) + r^4 (-2240 R^4 s^6 + 352 R^2 s^8 + 21 s^{10})) / \\ & (r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$$|X_{42}X_{78}|^2: \frac{R^2 (r^2 - s^2)^2 (5 r^2 - 16 r R + s^2)}{(r - R)^2 (r^2 - 2 r R + s^2)^2}$$

$$|X_{42}X_{79}|^2:$$

$$\frac{4 r^2 (2 r^6 + 14 r^5 R + 9 R^4 s^2 + 6 R^2 s^4 - 2 s^6 + 2 r^4 (9 R^2 + s^2) + r^3 (-60 R^3 + 28 R s^2) + r^2 (-171 R^4 + 24 R^2 s^2 - 2 s^4) - 2 r (72 R^5 - 6 R^3 s^2 - 7 R s^4))}{(2 r + 3 R)^2 (r^2 - 2 r R + s^2)^2}$$

$$|X_{42}X_{80}|^2: \frac{4 r^2 (2 r^5 - 5 r^2 R^3 - R^3 s^2 + r^3 (-14 R^2 + 4 s^2) + 2 r (8 R^4 - 7 R^2 s^2 + s^4))}{(2 r - R) (r^2 - 2 r R + s^2)^2}$$

$$|X_{42}X_{81}|^2: - \frac{r^2 R (2 r^7 + 15 r^6 R - 35 r^2 R s^4 - R s^6 + 6 r^3 s^2 (-4 R^2 + s^2) + 6 r^5 (4 R^2 + s^2) + r^4 (-16 R^3 + 45 R s^2) + 2 r (8 R^2 s^4 + s^6))}{(-r^4 + r^3 R + 2 r^2 R^2 - 3 r R s^2 + s^4)^2}$$

$$\begin{aligned} |X_{42}X_{83}|^2: & (9 r^{14} + 184 r^{13} R - 24 r R s^{12} + s^{14} - r^2 s^{10} (-96 R^2 + s^2) + \\ & 64 r^3 R s^8 (14 R^2 + s^2) + r^{12} (1376 R^2 + 39 s^2) + 64 r^{11} (55 R^3 + 6 R s^2) - \\ & r^4 s^6 (6336 R^4 + 96 R^2 s^2 + 11 s^4) + r^{10} (-8960 R^4 + 416 R^2 s^2 + 61 s^4) - \\ & 8 r^9 (9728 R^5 + 648 R^3 s^2 - 23 R s^4) + r^8 (-180224 R^6 - 7872 R^4 s^2 + 1536 R^2 s^4 + 35 s^6) - \\ & 64 r^7 (2304 R^7 - 632 R^5 s^2 - 167 R^3 s^4 - R s^6) + \\ & r^6 (82944 R^6 s^2 + 16256 R^4 s^4 - 1792 R^2 s^6 - 5 s^8) - 8 r^5 (192 R^5 s^4 + 536 R^3 s^6 - 21 R s^8)) / \\ & (5 r^6 + 30 r^5 R - r^4 s^2 - 50 r R s^4 + 5 s^6 - 4 r^3 (40 R^3 - 3 R s^2) + r^2 (160 R^2 s^2 - s^4))^2 \end{aligned}$$

$$|X_{42}X_{85}|^2:$$

$$\begin{aligned} & (r^{10} + 24 r^9 R + s^{10} + 80 r^7 R (12 R^2 + s^2) + r^8 (224 R^2 + 5 s^2) + 2 r^6 (640 R^4 + 208 R^2 s^2 + 5 s^4) - \\ & 64 r^5 (64 R^5 - 15 R^3 s^2 - R s^4) - 16 r^3 R (1024 R^6 - 224 R^4 s^2 + 4 R^2 s^4 + s^6) + \\ & 2 r^4 (-8192 R^6 + 928 R^4 s^2 + 144 R^2 s^4 + 5 s^6) + r^2 (1024 R^6 s^2 - 1024 R^4 s^4 + 96 R^2 s^6 + 5 s^8) + \\ & 8 r (8 R^3 s^6 - 3 R s^8)) / (r^4 + 6 r^3 R - 32 r R^3 + 2 r^2 s^2 + 6 r R s^2 + 16 R^2 s^2 + s^4)^2 \end{aligned}$$

$$|X_{42}X_{86}|^2:$$

$$\begin{aligned} & (r^{10} + 16 r^9 R + s^{10} + 5 r^8 (16 R^2 + s^2) + 16 r^7 (4 R^3 + 7 R s^2) + r^6 (-512 R^4 + 304 R^2 s^2 + 10 s^4) - \\ & 16 r^5 (64 R^5 + 20 R^3 s^2 - 11 R s^4) + r^4 (-1984 R^4 s^2 + 304 R^2 s^4 + 10 s^6) - \\ & 16 r^3 (72 R^3 s^4 - 5 R s^6) + r^2 (-176 R^2 s^6 + 5 s^8)) / \\ & (r^4 + 2 r^3 R - 6 r R s^2 + 5 s^4 + r^2 (-8 R^2 + 6 s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{42}X_{88}|^2: & - \left((r^2 R (54 r^7 + 63 r^6 R - R s^6 - 6 r^5 (252 R^2 - 19 s^2) - 3 r^4 (432 R^3 - 47 R s^2) + \right. \\ & 6 r^3 (1536 R^4 - 364 R^2 s^2 + 11 s^4) + r^2 (192 R^3 s^2 + 13 R s^4) + r (-32 R^2 s^4 + 6 s^6)) / \\ & \left. (3 r^4 - 21 r^3 R - 17 r R s^2 + s^4 + r^2 (30 R^2 + 4 s^2))^2 \right) \end{aligned}$$

$$|X_{42}X_{89}|^2:$$

$$\begin{aligned} & (r^2 R (-108 r^7 - 603 r^6 R + R s^6 + 12 r^5 (18 R^2 - 19 s^2) + 3 r^4 (1008 R^3 - 487 R s^2) - 12 r^3 \\ & (192 R^4 - 136 R^2 s^2 + 11 s^4) + r^2 (-240 R^3 s^2 + 167 R s^4) + 4 r (2 R^2 s^4 - 3 s^6)) / \\ & (6 r^4 - 15 r^3 R + r R s^2 - 2 s^4 + r^2 (6 R^2 + 4 s^2))^2 \end{aligned}$$

$$|X_{42}X_{99}|^2:$$

$$\left(r^{10} + 16 r^9 R - 16 r R s^8 + s^{10} + 32 r^7 R (2 R^2 + s^2) + 5 r^8 (16 R^2 + s^2) - 64 r^5 (16 R^5 - 9 R^3 s^2) + \right. \\ \left. r^6 (-512 R^4 + 80 R^2 s^2 + 10 s^4) + 2 r^4 (32 R^4 s^2 + 120 R^2 s^4 + 5 s^6) + 32 r^3 (8 R^3 s^4 - R s^6) + \right. \\ \left. r^2 (-16 R^2 s^6 + 5 s^8) \right) / \left((r^2 - 2 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right)$$

$$|X_{42}X_{141}|^2: \quad \left(3 r^{10} + 40 r^9 R - 16 r R s^8 + s^{10} + 3 r^8 (52 R^2 - s^2) + 8 r^7 R (-6 R^2 + s^2) - \right. \\ \left. 2 r^6 (736 R^4 - 80 R^2 s^2 + 5 s^4) - 8 r^5 (288 R^5 - 58 R^3 s^2 + 7 R s^4) + 2 r^4 (72 R^4 s^2 + 22 R^2 s^4 + s^6) + \right. \\ \left. 8 r^3 (48 R^3 s^4 - 5 R s^6) + r^2 (-24 R^2 s^6 + 7 s^8) \right) / \left(4 (r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2 \right)$$

$$|X_{42}X_{142}|^2: \quad \frac{1}{4 (r+4 R)^2 (r^2-2 r R+s^2)^2} \\ \left(3 r^8 + 40 r^7 R - 16 r R^3 s^4 + 4 R^2 s^6 + r^6 (156 R^2 + 5 s^2) + r^5 (-48 R^3 + 64 R s^2) + \right. \\ \left. r^4 (-1472 R^4 + 176 R^2 s^2 + s^4) - 24 r^3 (96 R^5 + 2 R^3 s^2 - R s^4) - r^2 (624 R^4 s^2 - 40 R^2 s^4 + s^6) \right)$$

$$|X_{42}X_{145}|^2: \quad \frac{(5 r^2-16 r R+s^2) (r^2-4 r R+s^2)^2}{(r^2-2 r R+s^2)^2}$$

$$|X_{42}X_{190}|^2: \quad - \left((7 r^{10} + 80 r^9 R + 32 r R s^8 - s^{10} + 16 r^7 R (28 R^2 + s^2) + r^8 (304 R^2 + 27 s^2) + \right. \\ \left. 2 r^6 (256 R^4 + 504 R^2 s^2 + 19 s^4) + 16 r^5 (64 R^5 + 132 R^3 s^2 - 11 R s^4) + \right. \\ \left. 2 r^4 (992 R^4 s^2 + 72 R^2 s^4 + 11 s^6) + 80 r^3 (8 R^3 s^4 - R s^6) + r^2 (-304 R^2 s^6 + 3 s^8) \right) / \\ \left(3 r^4 + 6 r^3 R + 14 r R s^2 - s^4 + r^2 (-24 R^2 + 2 s^2) \right)^2$$

$$|X_{42}X_{192}|^2: \quad \left(-3 r^{10} - 32 r^9 R - 1024 r^3 R^3 s^4 - 32 r R s^8 + s^{10} - r^8 (96 R^2 + 11 s^2) + \right. \\ \left. 2 r^6 (128 R^4 - 192 R^2 s^2 - 7 s^4) - 64 r^5 (8 R^3 s^2 - R s^4) + r^4 (32 R^2 s^4 - 6 s^6) + \right. \\ \left. r^2 (320 R^2 s^6 + s^8) \right) / \left(r^4 + 2 r^3 R + 2 r R s^2 + s^4 + r^2 (-8 R^2 + 2 s^2) \right)^2$$

$$|X_{42}X_{194}|^2: \quad - \left((3 r^{14} + 56 r^{13} R + 24 r R s^{12} - s^{14} - 3 r^2 s^{10} (48 R^2 + s^2) + 8 r^5 R s^6 (192 R^2 + s^2) + \right. \\ \left. 16 r^3 R s^8 (16 R^2 + 3 s^2) + r^{12} (400 R^2 + 17 s^2) + 16 r^{11} (80 R^3 + 11 R s^2) + \right. \\ \left. 32 r^7 R s^2 (64 R^4 + 112 R^2 s^2 + s^4) + r^{10} (1280 R^4 + 944 R^2 s^2 + 39 s^4) - \right. \\ \left. 8 r^9 (256 R^5 - 448 R^3 s^2 - 21 R s^4) + r^8 (-4096 R^6 + 6656 R^4 s^2 + 288 R^2 s^4 + 45 s^6) + \right. \\ \left. 5 r^6 (256 R^4 s^4 - 160 R^2 s^6 + 5 s^8) + r^4 (-688 R^2 s^8 + 3 s^{10}) \right) / \\ \left(r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4) \right)^2$$

$$|X_{42}X_{200}|^2: \quad \frac{4 R^2 s^4 (5 r^2-16 r R+s^2)}{(r-2 R)^2 (r^2-2 r R+s^2)^2}$$

$$|X_{42}X_{210}|^2: \quad \frac{-r^6 R+4 R s^6+2 r^5 (-6 R^2+s^2)-6 r^4 R (8 R^2+s^2)-r^2 R s^2 (124 R^2+s^2)+r^3 (-64 R^4-60 R^2 s^2+4 s^4)+r (-56 R^2 s^4+2 s^6)}{9 R (r^2-2 r R+s^2)^2}$$

$$|X_{42}X_{213}|^2: \quad - \left((4 r^4 R^2 (r^8 + 20 r^7 R - 36 R^2 s^6 - 7 s^8 + 4 r^6 (40 R^2 + 3 s^2) + 20 r^5 (32 R^3 + 7 R s^2) + \right. \\ \left. 2 r^4 (640 R^4 + 318 R^2 s^2 + 7 s^4) + 4 r^3 (256 R^5 + 360 R^3 s^2 + 39 R s^4) + \right. \\ \left. 4 r^2 (368 R^4 s^2 + 94 R^2 s^4 - s^6) + 12 r (40 R^3 s^4 + 3 R s^6) \right) / \\ \left(r^6 + 6 r^5 R + r^4 s^2 + 6 r R s^4 - s^6 - 4 r^3 (8 R^3 - 3 R s^2) + r^2 (8 R^2 s^2 - s^4) \right)^2$$

$$|X_{42}X_{238}|^2: \quad \frac{4 r^2 R (2 r^7+17 r^6 R+2 r s^6+R s^6+3 r^2 R s^2 (-64 R^2+s^2)+6 r^5 (-4 R^2+s^2)-r^4 (496 R^3+45 R s^2)-2 r^3 (512 R^4+108 R^2 s^2-3 s^4))}{(3 r^4+6 r^3 R+14 r R s^2-s^4+r^2 (-24 R^2+2 s^2))^2}$$

$$|X_{42}X_{239}|^2: \quad \frac{(5 r^2-16 r R+s^2) (r^4+8 r^3 R+s^4+2 r^2 (8 R^2+s^2))^2}{(3 r^4+6 r^3 R+14 r R s^2-s^4+r^2 (-24 R^2+2 s^2))^2}$$

$$|X_{42}X_{244}|^2: \quad - \frac{16 r^4 R (2 r^5-3 r^4 R-36 R^3 s^2+5 R s^4+2 r^2 R (-8 R^2+s^2)+r^3 (-84 R^2+4 s^2)+2 r (288 R^4-46 R^2 s^2+s^4))}{(r^4-16 r^3 R-16 r R s^2+s^4+2 r^2 (14 R^2+s^2))^2}$$

$$\begin{aligned}
& |X_{42}X_{304}|^2: \\
& \left(r^{14} + 24 r^{13} R - 24 r R s^{12} + s^{14} + 64 r^{11} R (15 R^2 + s^2) + r^2 s^{10} (128 R^2 + 3 s^2) + r^{12} (224 R^2 + 3 s^2) + \right. \\
& \quad r^4 s^6 (320 R^4 - 224 R^2 s^2 + s^4) - 8 r^9 R (512 R^4 - 184 R^2 s^2 + s^4) + \\
& \quad 8 r^5 R s^4 (-576 R^4 + 104 R^2 s^2 + s^4) + r^{10} (1280 R^4 + 448 R^2 s^2 + s^4) + \\
& \quad r^8 (-16384 R^6 + 2368 R^4 s^2 + 256 R^2 s^4 - 5 s^6) - \\
& \quad 64 r^7 R (256 R^6 + 8 R^4 s^2 - 13 R^2 s^4 + s^6) - r^6 (7168 R^6 s^2 + 384 R^4 s^4 + 320 R^2 s^6 + 5 s^8) \left. \right) / \\
& \quad (r^6 + 6 r^5 R + r^4 s^2 - r^2 s^4 + 10 r R s^4 - s^6 + 16 r^3 R (-2 R^2 + s^2))^2 \\
& |X_{42}X_{306}|^2: \quad \frac{(5 r^2 - 16 r R + s^2) (r^4 + 6 r^3 R + 8 r^2 R^2 + 2 r R s^2 - s^4)^2}{(3 r^4 + 8 r R s^2 - s^4 + 2 r^2 (-6 R^2 + s^2))^2} \\
& |X_{42}X_{312}|^2: \quad (r^{10} - 8 r^9 R - 24 r R s^8 + s^{10} + r^8 (-64 R^2 + 5 s^2) + \\
& \quad 16 r^7 (4 R^3 - R s^2) - 32 r^5 R (32 R^4 - 8 R^2 s^2 + s^4) + 2 r^6 (128 R^4 - 64 R^2 s^2 + 5 s^4) + \\
& \quad r^4 (-960 R^4 s^2 + 64 R^2 s^4 + 10 s^6) + 16 r^3 (4 R^3 s^4 - 3 R s^6) + r^2 (128 R^2 s^6 + 5 s^8) \left. \right) / \\
& \quad (r^4 - 10 r^3 R - 10 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \\
& |X_{42}X_{319}|^2: \quad (r^{10} + 16 r^9 R - 144 r R s^8 + 9 s^{10} + r^8 (80 R^2 - 19 s^2) + \\
& \quad 64 r^7 (R^3 - R s^2) + r^6 (-512 R^4 + 176 R^2 s^2 + 10 s^4) - 64 r^5 (16 R^5 - 15 R^3 s^2 + 5 R s^4) + \\
& \quad r^4 (64 R^4 s^2 + 48 R^2 s^4 + 90 s^6) + 384 r^3 (2 R^3 s^4 - R s^6) + r^2 (-48 R^2 s^6 + 69 s^8) \left. \right) / \\
& \quad (r^4 + 2 r^3 R + 10 r R s^2 - 3 s^4 - 2 r^2 (4 R^2 + s^2))^2 \\
& |X_{42}X_{320}|^2: \quad (9 r^{10} + 144 r^9 R - 16 r R s^8 + s^{10} + 9 r^8 (80 R^2 - 3 s^2) + \\
& \quad 192 r^7 R (3 R^2 + s^2) + r^6 (-4608 R^4 + 816 R^2 s^2 - 70 s^4) - 64 r^5 R (144 R^4 - 39 R^2 s^2 + s^4) + \\
& \quad r^4 (576 R^4 s^2 + 48 R^2 s^4 - 22 s^6) + 128 r^3 (6 R^3 s^4 - R s^6) + r^2 (-48 R^2 s^6 + 13 s^8) \left. \right) / \\
& \quad (3 r^4 + 6 r^3 R + 14 r R s^2 - s^4 + r^2 (-24 R^2 + 2 s^2))^2 \\
& |X_{42}X_{321}|^2: \quad \frac{r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2)}{(r^2 - 2 r R + s^2)^2} \\
& |X_{42}X_{345}|^2: \\
& \quad (9 r^{10} + 56 r^9 R - 24 r R s^8 + s^{10} + 48 r^7 R (-20 R^2 + s^2) + 16 r^3 R s^4 (4 R^2 + s^2) + r^8 (-64 R^2 + 9 s^2) - \\
& \quad 2 r^6 (896 R^4 + 144 R^2 s^2 + 5 s^4) - 32 r^5 (32 R^5 + 36 R^3 s^2 - R s^4) - \\
& \quad 10 r^4 (96 R^4 s^2 - 16 R^2 s^4 + s^6) + r^2 (128 R^2 s^6 + s^8) \left. \right) / \\
& \quad (-5 r^4 + 2 r^3 R - 10 r R s^2 + s^4 - 4 r^2 (-4 R^2 + s^2))^2 \\
& |X_{42}X_{346}|^2: \quad (-192 r^7 R^3 - 24 r R s^8 + s^{10} - 4 r^8 (4 R^2 + s^2) - r^6 (768 R^4 + 96 R^2 s^2 + 7 s^4) - \\
& \quad 8 r^5 (128 R^5 + 56 R^3 s^2 - R s^4) - r^4 (960 R^4 s^2 - 112 R^2 s^4 + s^6) + 16 r^3 (4 R^3 s^4 - R s^6) + \\
& \quad r^2 (128 R^2 s^6 + 3 s^8) \left. \right) / (2 r^4 + 4 r^3 R + 10 r R s^2 - s^4 + r^2 (-16 R^2 + s^2))^2 \\
& |X_{42}X_{350}|^2: \\
& \quad \left((r^2 + 4 r R + s^2)^2 (r^{10} + 16 r^9 R - 32 r R s^8 + s^{10} + 16 r^7 R (4 R^2 + s^2) + 5 r^8 (16 R^2 + s^2) - \right. \\
& \quad 2 r^6 (256 R^4 + 104 R^2 s^2 - 5 s^4) - 16 r^5 (64 R^5 - 12 R^3 s^2 + 3 R s^4) + \\
& \quad 2 r^4 (1056 R^4 s^2 + 152 R^2 s^4 + 5 s^6) - 16 r^3 (88 R^3 s^4 + 5 R s^6) + r^2 (336 R^2 s^6 + 5 s^8) \left. \right) \left. \right) / \\
& \quad (r^6 + 6 r^5 R + 3 r^4 s^2 - 18 r R s^4 + s^6 - 4 r^3 (8 R^3 + 3 R s^2) + 3 r^2 (16 R^2 s^2 + s^4))^2 \\
& |X_{43}X_{44}|^2: \\
& \quad \frac{4 r^2 R (9 r^7 + 108 r^6 R - 34 r^2 R s^4 + R s^6 + 3 r^5 (144 R^2 + 7 s^2) + 3 r^4 (192 R^3 - 61 R s^2) + r^3 (-96 R^2 s^2 + 15 s^4) + r (-16 R^2 s^4 + 3 s^6))}{(-3 r^4 + 12 r^3 R - 20 r R s^2 + s^4 + r^2 (96 R^2 - 2 s^2))^2} \\
& |X_{43}X_{45}|^2: \\
& \quad \frac{4 r^2 R (9 r^7 + 108 r^6 R - 106 r^2 R s^4 + 25 R s^6 + r^5 (432 R^2 + 33 s^2) + r^4 (576 R^3 - 87 R s^2) + r^3 (96 R^2 s^2 + 39 s^4) - 5 r (80 R^2 s^4 - 3 s^6))}{(3 r^4 - 12 r^3 R + 4 r R s^2 + s^4 + r^2 (-96 R^2 + 4 s^2))^2} \\
& |X_{43}X_{46}|^2: \quad - \frac{4 r^2 R^2 (-7 r^4 - 20 r^3 R - 4 R^2 s^2 + s^4 + 2 r^2 (6 R^2 + 5 s^2) + 4 r (16 R^3 - 5 R s^2))}{(r - R)^2 (r^2 - 8 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{43}X_{55}|^2 &: \frac{r^2 R (2 r^5 + 29 r^4 R + 16 R^3 s^2 + 5 R s^4 + 4 r^3 (30 R^2 + s^2) + 10 r^2 (8 R^3 - 3 R s^2) + r (-256 R^4 - 72 R^2 s^2 + 2 s^4))}{(r+R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{56}|^2 &: \frac{r^2 R (2 r^5 + 21 r^4 R + 16 R^3 s^2 - 3 R s^4 + 4 r^3 (-6 R^2 + s^2) + r^2 (208 R^3 - 46 R s^2) + r (-256 R^4 + 40 R^2 s^2 + 2 s^4))}{(r-R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{57}|^2 &: \frac{4 r^2 R^2 (5 r^4 + 24 r^3 R + 16 R^2 s^2 - 3 s^4 - 2 r^2 (24 R^2 + 7 s^2) - 8 r (32 R^3 - 7 R s^2))}{(r-2 R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{58}|^2 &: \frac{4 r^2 R (6 r^7 + 69 r^6 R + 39 r^2 R s^4 + R s^6 + 2 r^5 (104 R^2 + 5 s^2) + r^4 (256 R^3 - 149 R s^2) + r^3 (-64 R^2 s^2 + 2 s^4) - 2 r (8 R^2 s^4 + s^6))}{(-3 r^4 + 20 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 2 s^2))^2} \\
|X_{43}X_{63}|^2 &: \frac{R (2 r^7 + 29 r^6 R + R s^6 + 6 r^5 (20 R^2 + s^2) + r^4 (80 R^3 - 69 R s^2) + r^3 (-256 R^4 + 96 R^2 s^2 + 6 s^4) + 3 r^2 (48 R^3 s^2 - 11 R s^4) + r (-24 R^2 s^4 + 2 s^6))}{(r+R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{65}|^2 &: - \frac{r^2 (2 r^5 - 29 r^4 R - 16 R^3 s^2 + 3 R s^4 + 4 r^3 (14 R^2 + s^2) + r^2 (304 R^3 - 26 R s^2) + 2 r (128 R^4 - 36 R^2 s^2 + s^4))}{R (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{69}|^2 &: \frac{(r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} + r^8 (32 R^2 - 7 s^2) - 8 r^7 (64 R^3 - 9 R s^2) - 2 r^6 (1408 R^4 - 88 R^2 s^2 + 5 s^4) - 8 r^5 (512 R^5 - 48 R^3 s^2 + 7 R s^4) + r^4 (-1792 R^4 s^2 + 512 R^2 s^4 + 6 s^6) + 8 r^3 (48 R^3 s^4 - 17 R s^6) + r^2 (112 R^2 s^6 + 9 s^8))}{(-r^4 + 4 r^3 R + 32 r^2 R^2 - 12 r R s^2 + s^4)^2} \\
|X_{43}X_{72}|^2 &: \frac{-r^7 + 12 r^6 R - r^5 s^2 + R s^6 - r^4 (176 R^3 + 7 R s^2) + r^3 (-256 R^4 + 104 R^2 s^2 + s^4) + 18 r^2 (8 R^3 s^2 - R s^4) + r (-24 R^2 s^4 + s^6)}{R (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{75}|^2 &: \frac{(r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} + r^8 (32 R^2 + 5 s^2) - 8 r^7 (64 R^3 - 7 R s^2) - 2 r^6 (1408 R^4 + 136 R^2 s^2 - 5 s^4) - 8 r^5 (512 R^5 - 80 R^3 s^2 - 5 R s^4) + 2 r^4 (1152 R^4 s^2 - 64 R^2 s^4 + 5 s^6) - 8 r^3 (112 R^3 s^4 + 3 R s^6) + r^2 (176 R^2 s^6 + 5 s^8))}{(r^4 - 4 r^3 R - 4 r R s^2 + s^4 + r^2 (-32 R^2 + 2 s^2))^2} \\
|X_{43}X_{76}|^2 &: \frac{(r^{14} + 24 r^{13} R + 88 r^{11} R s^2 - 32 r R s^{12} + s^{14} + r^{12} (176 R^2 + 7 s^2) + r^2 s^{10} (320 R^2 + 7 s^2) - 8 r^3 R s^8 (112 R^2 + 17 s^2) + r^{10} (-6400 R^4 + 128 R^2 s^2 + 21 s^4) - 16 r^9 (2176 R^5 + 40 R^3 s^2 - 5 R s^4) + r^8 (-77824 R^6 + 2560 R^4 s^2 - 96 R^2 s^4 + 35 s^6) - 16 r^7 (4096 R^7 - 896 R^5 s^2 + 136 R^3 s^4 + 5 R s^6) + r^6 (4096 R^6 s^2 + 5888 R^4 s^4 + 448 R^2 s^6 + 35 s^8) + 8 r^5 (2048 R^5 s^4 - 304 R^3 s^6 - 25 R s^8) + r^4 (-3072 R^4 s^6 + 816 R^2 s^8 + 21 s^{10}))}{(r^6 - 16 r R s^4 + s^6 - 16 r^3 R (8 R^2 + s^2) + r^4 (-48 R^2 + 3 s^2) + r^2 (80 R^2 s^2 + 3 s^4))^2} \\
|X_{43}X_{78}|^2 &: \frac{R^2 (5 r^2 - 16 r R + s^2) (-3 r^2 - 4 r R + s^2)^2}{(r-R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{79}|^2 &: \frac{4 r^2 (2 r^6 + 4 r^5 R + 36 R^4 s^2 + 3 R^2 s^4 - 2 s^6 + r^4 (-53 R^2 + 2 s^2) + r^3 (-244 R^3 + 40 R s^2) - 2 r^2 (246 R^4 + 57 R^2 s^2 + s^4) + 12 r R (-48 R^4 + R^2 s^2 + 3 s^4))}{(2 r + 3 R)^2 (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{80}|^2 &: \frac{4 r^2 (2 r^5 - 15 r^4 R - 4 R^3 s^2 + R s^4 + 4 r^3 (R^2 + s^2) + 2 r^2 (38 R^3 - 7 R s^2) + 2 r (32 R^4 - 14 R^2 s^2 + s^4))}{(2 r - R) (r^2 - 8 r R + s^2)^2} \\
|X_{43}X_{81}|^2 &: \frac{r^2 R (2 r^7 + 29 r^6 R + 9 R s^6 + 2 r^5 (60 R^2 - s^2) + r^4 (80 R^3 - 93 R s^2) - 2 r^3 (128 R^4 + 5 s^4) + r^2 (-368 R^3 s^2 + 143 R s^4) - 6 r (20 R^2 s^4 + s^6))}{(-r^4 + 7 r^3 R + 8 r^2 R^2 - 9 r R s^2 + s^4)^2} \\
|X_{43}X_{83}|^2 &: \frac{(9 r^{14} + 216 r^{13} R - 16 r R s^{12} + s^{14} - r^2 s^{10} (64 R^2 + s^2) + 8 r^3 R s^8 (144 R^2 + 13 s^2) + r^{12} (2096 R^2 + 39 s^2) + 8 r^{11} (1280 R^3 + 17 R s^2) - r^4 s^6 (1024 R^4 + 208 R^2 s^2 + 11 s^4) + r^{10} (24320 R^4 - 3712 R^2 s^2 + 61 s^4) + 32 r^9 (448 R^5 - 932 R^3 s^2 - 7 R s^4) + r^8 (-45056 R^6 - 71168 R^4 s^2 + 4640 R^2 s^4 + 35 s^6) - 16 r^7 (4096 R^7 + 1408 R^5 s^2 - 2104 R^3 s^4 - 9 R s^6) + r^6 (69632 R^6 s^2 + 34560 R^4 s^4 - 6080 R^2 s^6 - 5 s^8) - 8 r^5 (2560 R^5 s^4 + 880 R^3 s^6 - 51 R s^8))}{(5 r^6 - 80 r R s^4 + 5 s^6 - r^4 (240 R^2 + s^2) + r^3 (-640 R^3 + 48 R s^2) + r^2 (400 R^2 s^2 - s^4))^2}
\end{aligned}$$

$$|X_{43}X_{85}|^2:$$

$$\begin{aligned} & (r^{10} + 24 r^9 R + 72 r^7 R s^2 + s^{10} + r^8 (176 R^2 + 5 s^2) + r^6 (-6400 R^4 + 192 R^2 s^2 + 10 s^4) - \\ & 8 r^5 (4352 R^5 - 48 R^3 s^2 - 5 R s^4) + r^4 (-77824 R^6 + 6144 R^4 s^2 + 368 R^2 s^4 + 10 s^6) - \\ & 8 r^3 (8192 R^7 - 2304 R^5 s^2 + 192 R^3 s^4 + 5 R s^6) + r^2 (4096 R^6 s^2 - 2816 R^4 s^4 + 352 R^2 s^6 + 5 s^8) + \\ & 32 r (4 R^3 s^6 - R s^8)) / (r^4 - 128 r R^3 + 16 R^2 s^2 + s^4 + r^2 (-48 R^2 + 2 s^2))^2 \end{aligned}$$

$$|X_{43}X_{86}|^2:$$

$$\begin{aligned} & (r^{10} + 16 r^9 R + 8 r R s^8 + s^{10} + r^8 (32 R^2 + 5 s^2) - \\ & 8 r^7 (64 R^3 - 19 R s^2) - 2 r^6 (1408 R^4 + 8 R^2 s^2 - 5 s^4) - 8 r^5 (512 R^5 + 240 R^3 s^2 - 33 R s^4) + \\ & r^4 (-5888 R^4 s^2 + 768 R^2 s^4 + 10 s^6) - 8 r^3 (304 R^3 s^4 - 17 R s^6) + r^2 (-208 R^2 s^6 + 5 s^8)) / \\ & (r^4 - 4 r^3 R - 36 r R s^2 + 5 s^4 + r^2 (-32 R^2 + 6 s^2))^2 \end{aligned}$$

$$|X_{43}X_{88}|^2:$$

$$\begin{aligned} & (r^2 R (-18 r^7 + 189 r^6 R + R s^6 + 30 r^5 (36 R^2 - s^2) - 21 r^4 (240 R^3 + 17 R s^2) - \\ & 6 r^3 (3456 R^4 - 592 R^2 s^2 + s^4) + 17 r^2 (144 R^3 s^2 - 17 R s^4) + r (-88 R^2 s^4 + 6 s^6))) / \\ & (3 r^4 - 39 r^3 R - 23 r R s^2 + s^4 + 4 r^2 (30 R^2 + s^2))^2 \end{aligned}$$

$$|X_{43}X_{89}|^2:$$

$$\begin{aligned} & (r^2 R (36 r^7 + 837 r^6 R + 25 R s^6 + 12 r^5 (306 R^2 + s^2) - 3 r^4 (528 R^3 + 799 R s^2) - 12 r^3 \\ & (1728 R^4 - 388 R^2 s^2 + 7 s^4) + r^2 (-4464 R^3 s^2 + 887 R s^4) - 20 r (2 R^2 s^4 + 3 s^6))) / \\ & (6 r^4 - 51 r^3 R + 13 r R s^2 - 2 s^4 + 4 r^2 (6 R^2 + s^2))^2 \end{aligned}$$

$$|X_{43}X_{99}|^2:$$

$$\begin{aligned} & (r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} - 8 r^7 R (64 R^2 + s^2) + \\ & r^8 (32 R^2 + 5 s^2) - 2 r^6 (1408 R^4 + 232 R^2 s^2 - 5 s^4) - 8 r^5 (512 R^5 + 16 R^3 s^2 + 11 R s^4) + \\ & r^4 (-1792 R^4 s^2 + 640 R^2 s^4 + 10 s^6) + 8 r^3 (48 R^3 s^4 - 11 R s^6) + r^2 (112 R^2 s^6 + 5 s^8)) / \\ & ((r^2 - 8 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))) \end{aligned}$$

$$|X_{43}X_{141}|^2:$$

$$\begin{aligned} & (3 r^{10} + 36 r^9 R - 20 r R s^8 + s^{10} + r^8 (80 R^2 - 3 s^2) - \\ & 8 r^7 (72 R^3 - 5 R s^2) - 2 r^6 (1536 R^4 - 130 R^2 s^2 + 5 s^4) - 16 r^5 (256 R^5 - 28 R^3 s^2 + 3 R s^4) + \\ & r^4 (-768 R^4 s^2 + 216 R^2 s^4 + 2 s^6) + 8 r^3 (64 R^3 s^4 - 9 R s^6) + r^2 (36 R^2 s^6 + 7 s^8)) / \\ & (4 (-r^4 + 4 r^3 R + 32 r^2 R^2 - 12 r R s^2 + s^4))^2 \end{aligned}$$

$$|X_{43}X_{142}|^2:$$

$$\begin{aligned} & \frac{1}{4 (r+4 R)^2 (r^2-8 r R+s^2)^2} \\ & (3 r^8 + 36 r^7 R + 4 R^2 s^6 + 5 r^6 (16 R^2 + s^2) - 72 r^5 (8 R^3 - R s^2) + r^4 (-3072 R^4 + 132 R^2 s^2 + s^4) - \\ & 4 r^3 (1024 R^5 + 16 R^3 s^2 - 9 R s^4) - r^2 (768 R^4 s^2 - 56 R^2 s^4 + s^6)) \end{aligned}$$

$$|X_{43}X_{145}|^2:$$

$$\frac{(5 r^2-16 r R+s^2) (r^2-12 r R+s^2)^2}{(r^2-8 r R+s^2)^2}$$

$$|X_{43}X_{190}|^2:$$

$$\begin{aligned} & (-7 r^{10} + 16 r^9 R - 40 r R s^8 + s^{10} + r^8 (800 R^2 - 27 s^2) + 8 r^7 (448 R^3 + 29 R s^2) + \\ & r^6 (3328 R^4 - 2064 R^2 s^2 - 38 s^4) - 8 r^5 (512 R^5 - 432 R^3 s^2 - 47 R s^4) + \\ & 2 r^4 (3200 R^4 s^2 - 640 R^2 s^4 - 11 s^6) - 40 r^3 (80 R^3 s^4 - 3 R s^6) + r^2 (560 R^2 s^6 - 3 s^8)) / \\ & (-3 r^4 + 12 r^3 R - 20 r R s^2 + s^4 + r^2 (96 R^2 - 2 s^2))^2 \end{aligned}$$

$$|X_{43}X_{192}|^2:$$

$$\begin{aligned} & (-3 r^{10} - 48 r R s^8 + s^{10} + r^8 (224 R^2 - 11 s^2) - 16 r^3 R s^4 (320 R^2 + s^2) + 16 r^7 (48 R^3 + 5 R s^2) - \\ & 2 r^6 (384 R^4 + 400 R^2 s^2 + 7 s^4) - 16 r^5 (256 R^5 - 240 R^3 s^2 - 7 R s^4) + \\ & r^4 (8448 R^4 s^2 - 224 R^2 s^4 - 6 s^6) + r^2 (800 R^2 s^6 + s^8)) / \\ & (r^4 - 4 r^3 R - 4 r R s^2 + s^4 + r^2 (-32 R^2 + 2 s^2))^2 \end{aligned}$$

$$\begin{aligned}
|X_{43}X_{194}|^2: & \quad (-3r^{14} - 24r^{13}R - 40rR s^{12} + s^{14} + r^{12}(176R^2 - 17s^2) - 96r^3R s^8(32R^2 + s^2) + \\
& \quad r^2 s^{10}(560R^2 + 3s^2) + 32r^{11}(80R^3 - R s^2) + r^{10}(8960R^4 + 240R^2 s^2 - 39s^4) + \\
& \quad r^4 s^6(2816R^4 + 1392R^2 s^2 - 3s^4) + 8r^9(256R^5 + 192R^3 s^2 + 9R s^4) + \\
& \quad r^8(-45056R^6 + 12544R^4 s^2 + 224R^2 s^4 - 45s^6) - 128r^7(512R^7 - 192R^5 s^2 + 60R^3 s^4 - R s^6) + \\
& \quad r^6(-28672R^6 s^2 + 22784R^4 s^4 + 992R^2 s^6 - 25s^8) + 8r^5(2816R^5 s^4 - 1216R^3 s^6 - R s^8)) / \\
& \quad (r^6 - 16rR s^4 + s^6 - 16r^3R(8R^2 + s^2) + r^4(-48R^2 + 3s^2) + r^2(80R^2 s^2 + 3s^4))^2 \\
|X_{43}X_{200}|^2: & \quad \frac{4R^2(r^2+4rR-s^2)^2(5r^2-16rR+s^2)}{(r-2R)^2(r^2-8rR+s^2)^2} \\
|X_{43}X_{210}|^2: & \quad \frac{5r^6R+4Rs^6+2r^5(12R^2+s^2)-6r^4(8R^3+3Rs^2)+4r^3(-64R^4+18R^2s^2+s^4)+r^2(272R^3s^2-19Rs^4)+r(-80R^2s^4+2s^6)}{9R(r^2-8rR+s^2)^2} \\
|X_{43}X_{213}|^2: & \quad (4r^2R(r^{11}+20r^{10}R+Rs^{10}+24r^2Rs^6(6R^2+s^2)-rs^8(24R^2+s^2)+r^9(160R^2+3s^2)+ \\
& \quad r^8(640R^3+17Rs^2)+2r^7(640R^4+12R^2s^2+s^4)+4r^6(256R^5+36R^3s^2-Rs^4)+r^5 \\
& \quad (512R^4s^2-200R^2s^4-2s^6)+r^4(-96R^3s^4+22Rs^6)-r^3(256R^4s^4+88R^2s^6+3s^8))) / \\
& \quad (r^6+12rRs^4-s^6+r^4(-48R^2+s^2)-4r^3(32R^3-3Rs^2)-r^2(16R^2s^2+s^4))^2 \\
|X_{43}X_{238}|^2: & \quad \frac{16r^4R(2r^5+29r^4R+16R^3s^2+5Rs^4+4r^3(30R^2+s^2)+10r^2(8R^3-3Rs^2)+r(-256R^4-72R^2s^2+2s^4))}{(-3r^4+12r^3R-20rRs^2+s^4+r^2(96R^2-2s^2))^2} \\
|X_{43}X_{239}|^2: & \quad \frac{(5r^2-16rR+s^2)(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2}{(-3r^4+12r^3R-20rRs^2+s^4+r^2(96R^2-2s^2))^2} \\
|X_{43}X_{244}|^2: & \quad -((4r^2R(6r^7-53r^6R-Rs^6+r^5(-312R^2+10s^2)+3r^4(528R^3+7Rs^2)+ \\
& \quad 2r^3(3200R^4-384R^2s^2+s^4)+r^2(-1040R^3s^2+73Rs^4)+r(56R^2s^4-2s^6))) / \\
& \quad (r^4-22r^3R-22rRs^2+s^4+2r^2(56R^2+s^2))^2) \\
|X_{43}X_{304}|^2: & \quad (r^{14}+24r^{13}R+56r^{11}Rs^2-32rRs^{12}+s^{14}-8r^3Rs^8(144R^2+s^2)+r^{12}(176R^2+3s^2)+ \\
& \quad r^2s^{10}(320R^2+3s^2)+r^4s^6(3072R^4-656R^2s^2+s^4)- \\
& \quad 16r^9R(2176R^4-88R^2s^2+s^4)+r^{10}(-6400R^4+256R^2s^2+s^4)+ \\
& \quad r^8(-77824R^6+9728R^4s^2+736R^2s^4-5s^6)-16r^7(4096R^7-1408R^5s^2+24R^3s^4+3Rs^6)+ \\
& \quad r^6(4096R^6s^2-9472R^4s^4-320R^2s^6-5s^8)-8r^5(2048R^5s^4-656R^3s^6-3Rs^8)) / \\
& \quad (r^6+16rRs^4-s^6+r^4(-48R^2+s^2)-16r^3(8R^3-Rs^2)-r^2(48R^2s^2+s^4))^2 \\
|X_{43}X_{306}|^2: & \quad \frac{(5r^2-16rR+s^2)(r^4+6r^3R+8r^2R^2+6rRs^2-s^4)^2}{(-3r^4+18r^3R-14rRs^2+s^4+r^2(48R^2-2s^2))^2} \\
|X_{43}X_{312}|^2: & \quad \frac{r^6+8r^5R+24r^3Rs^2+3r^2s^4-16rRs^4+s^6+r^4(16R^2+3s^2)}{(r^2-8rR+s^2)^2} \\
|X_{43}X_{319}|^2: & \quad (r^{10}+16r^9R-216rRs^8+9s^{10}+r^8(32R^2-19s^2)+r^7(-512R^3+88Rs^2)+ \\
& \quad r^6(-2816R^4+624R^2s^2+10s^4)-8r^5(512R^5-16R^3s^2+75Rs^4)+ \\
& \quad r^4(-5888R^4s^2+2816R^2s^4+90s^6)-24r^3(16R^3s^4+37Rs^6)+3r^2(400R^2s^6+23s^8)) / \\
& \quad (r^4-4r^3R+28rRs^2-3s^4-2r^2(16R^2+s^2))^2 \\
|X_{43}X_{320}|^2: & \quad (9r^{10}+144r^9R-24rRs^8+s^{10}+9r^8(32R^2-3s^2)+r^7(-4608R^3+600Rs^2)+ \\
& \quad r^6(-25344R^4+240R^2s^2-70s^4)-8r^5(4608R^5-528R^3s^2-29Rs^4)- \\
& \quad 2r^4(1920R^4s^2-512R^2s^4+11s^6)+8r^3(208R^3s^4-31Rs^6)+r^2(48R^2s^6+13s^8)) / \\
& \quad (-3r^4+12r^3R-20rRs^2+s^4+r^2(96R^2-2s^2))^2
\end{aligned}$$

$$\begin{aligned}
|X_{43}X_{321}|^2 &: \left(r^{10} + 4 r^9 R - 28 r R s^8 + s^{10} + 16 r^7 R (-14 R^2 + s^2) + \right. \\
&\quad r^8 (-28 R^2 + 5 s^2) - 2 r^6 (352 R^4 + 162 R^2 s^2 - 5 s^4) - 8 r^5 R (128 R^4 - 112 R^2 s^2 + s^4) + \\
&\quad 2 r^4 (800 R^4 s^2 - 26 R^2 s^4 + 5 s^6) - 16 r^3 (58 R^3 s^4 + 3 R s^6) + r^2 (244 R^2 s^6 + 5 s^8) \Big) / \\
&\quad \left(r^4 - 10 r^3 R - 10 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2) \right)^2 \\
|X_{43}X_{345}|^2 &: \left(9 r^{10} + 88 r^9 R - 32 r R s^8 + s^{10} + 8 r^3 R s^4 (-128 R^2 + s^2) + \right. \\
&\quad r^8 (336 R^2 + 9 s^2) + 24 r^7 (32 R^3 + 5 R s^2) + 2 r^6 (512 R^4 - 144 R^2 s^2 - 5 s^4) + \\
&\quad r^5 (-768 R^3 s^2 + 72 R s^4) - 2 r^4 (24 R^2 s^4 + 5 s^6) + r^2 (320 R^2 s^6 + s^8) \Big) / \\
&\quad \left(-5 r^4 + 32 r^3 R - 16 r R s^2 + s^4 + r^2 (64 R^2 - 4 s^2) \right)^2 \\
|X_{43}X_{346}|^2 &: \left(16 r^9 R - 32 r R s^8 + s^{10} + 4 r^8 (48 R^2 - s^2) + 16 r^5 R s^2 (16 R^2 + s^2) + 32 r^7 R (24 R^2 + s^2) - \right. \\
&\quad 32 r^3 R s^4 (32 R^2 + s^2) + r^6 (1024 R^4 - 176 R^2 s^2 - 7 s^4) + r^4 (16 R^2 s^4 - s^6) + \\
&\quad r^2 (320 R^2 s^6 + 3 s^8) \Big) / \left(2 r^4 - 8 r^3 R + 16 r R s^2 - s^4 + r^2 (-64 R^2 + s^2) \right)^2 \\
|X_{43}X_{350}|^2 &: \left((r^2 + 4 r R + s^2)^2 (r^{10} + 16 r^9 R - 40 r R s^8 + s^{10} + 8 r^7 R (-64 R^2 + s^2) + r^8 (32 R^2 + 5 s^2) - \right. \\
&\quad 2 r^6 (1408 R^4 + 200 R^2 s^2 - 5 s^4) - 8 r^5 (512 R^5 - 240 R^3 s^2 + 9 R s^4) + \\
&\quad 2 r^4 (3200 R^4 s^2 + 192 R^2 s^4 + 5 s^6) - 8 r^3 (400 R^3 s^4 + 13 R s^6) + 5 r^2 (112 R^2 s^6 + s^8) \Big) / \\
&\quad \left(r^6 - 24 r R s^4 + s^6 + r^4 (-48 R^2 + 3 s^2) - 8 r^3 (16 R^3 + 3 R s^2) + 3 r^2 (48 R^2 s^2 + s^4) \right)^2 \\
|X_{44}X_{45}|^2 &: - \frac{144 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(9 r^4 + 72 r^3 R + 144 r^2 R^2 - s^4)^2} \\
|X_{44}X_{46}|^2 &: - \frac{4 r^2 R (-9 R^3 s^2 + 2 R s^4 + r^3 (9 R^2 - 3 s^2) + 3 r^2 (24 R^3 + 7 R s^2) + r (144 R^4 - 39 R^2 s^2 - s^4))}{(r-R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{55}|^2 &: - \frac{r^2 R (9 r^4 R - 36 R^3 s^2 - 7 R s^4 + 12 r^3 (9 R^2 - s^2) + 6 r^2 (72 R^3 + 5 R s^2) + r (576 R^4 + 60 R^2 s^2 - 4 s^4))}{(r+R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{56}|^2 &: \frac{r^2 R (27 r^4 R + 36 R^3 s^2 - 5 R s^4 + 12 r^3 (15 R^2 + s^2) + 6 r^2 (24 R^3 - 17 R s^2) + r (-576 R^4 + 84 R^2 s^2 + 4 s^4))}{(r-R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{57}|^2 &: - \frac{4 r^2 R (9 r^4 R - 36 R^3 s^2 + 5 R s^4 + 3 r^3 (36 R^2 - s^2) + 3 r^2 (144 R^3 + 7 R s^2) + r (576 R^4 - 120 R^2 s^2 - s^4))}{(r-2 R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{58}|^2 &: \frac{4 r^2 R (9 r^6 R - 7 r^2 R s^4 + 4 R s^6 + 18 r^5 (4 R^2 + s^2) + 18 r^4 (8 R^3 - R s^2) + 12 r^3 (6 R^2 s^2 - s^4) + r (-64 R^2 s^4 + 2 s^6))}{(9 r^4 + 48 r^3 R - 16 r R s^2 + s^4 + 6 r^2 (8 R^2 - s^2))^2} \\
|X_{44}X_{63}|^2 &: \frac{R (-9 r^6 R + R s^6 + 6 r^5 (-18 R^2 + s^2) + r^4 (-432 R^3 + 15 R s^2) + r^3 (-576 R^4 + 264 R^2 s^2) + r^2 (228 R^3 s^2 - 43 R s^4) + r (-28 R^2 s^4 + 2 s^6))}{(r+R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{65}|^2 &: - \frac{r^2 (18 r^5 + 189 r^4 R - 36 R^3 s^2 + 5 R s^4 + 12 r^3 (57 R^2 - s^2) + 6 r^2 (168 R^3 - 13 R s^2) + 2 r (288 R^4 - 78 R^2 s^2 + s^4))}{R (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{69}|^2 &: \left(-9 r^{10} - 180 r^9 R - 28 r R s^8 + s^{10} - 576 r^7 R (10 R^2 + s^2) - 9 r^8 (160 R^2 + 7 s^2) - \right. \\
&\quad 2 r^6 (5760 R^4 + 918 R^2 s^2 - 65 s^4) - 32 r^5 (288 R^5 + 99 R^3 s^2 - 25 R s^4) - \\
&\quad 2 r^4 (2016 R^4 s^2 - 620 R^2 s^4 + 33 s^6) + 48 r^3 (10 R^3 s^4 - 3 R s^6) + r^2 (180 R^2 s^6 + 7 s^8) \Big) / \\
&\quad \left(3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2) \right)^2 \\
|X_{44}X_{72}|^2 &: - \frac{(-3 r^2 - 6 r R + s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{R (-3 r^2 - 12 r R + s^2)^2} \\
|X_{44}X_{75}|^2 &: - \left((9 r^{10} + 180 r^9 R + 5760 r^7 R^3 + 28 r R s^8 - s^{10} + 9 r^8 (160 R^2 + 3 s^2) + \right. \\
&\quad 2 r^6 (5760 R^4 - 810 R^2 s^2 + 13 s^4) + 32 r^5 (288 R^5 - 189 R^3 s^2 + 8 R s^4) + \\
&\quad r^4 (-5184 R^4 s^2 + 1016 R^2 s^4 + 6 s^6) + 48 r^3 (34 R^3 s^4 - R s^6) - 3 r^2 (92 R^2 s^6 + s^8) \Big) / \\
&\quad \left(3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2) \right)^2
\end{aligned}$$

$$|X_{44}X_{76}|^2: \quad \left(-9r^{14} - 252r^{13}R - 36rRs^{12} + s^{14} + 5r^2s^{10}(84R^2 + s^2) - 9r^{12}(336R^2 + 5s^2) - \right. \\ \left. 8r^3Rs^8(176R^2 + 13s^2) - 72r^{11}(280R^3 + 9Rs^2) - r^{10}(80640R^4 + 3132R^2s^2 + 89s^4) - \right. \\ \left. 4r^9(48384R^5 + 1008R^3s^2 + 107Rs^4) + r^8(-258048R^6 + 10368R^4s^2 + 1872R^2s^4 - 85s^6) - \right. \\ \left. 16r^7(9216R^7 - 1728R^5s^2 - 916R^3s^4 - 3Rs^6) + \right. \\ \left. r^6(9216R^6s^2 + 31744R^4s^4 - 1608R^2s^6 - 35s^8) + \right. \\ \left. 4r^5(7680R^5s^4 - 1744R^3s^6 + 3Rs^8) + r^4(-4992R^4s^6 + 928R^2s^8 + s^{10}) \right) / \\ \left(3r^6 + 36r^5R + 20rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 8r^3(24R^3 - Rs^2) + r^2(-112R^2s^2 + s^4) \right)^2$$

$$|X_{44}X_{78}|^2: \quad \frac{R(18r^7 + 189r^6R + 28rR^2s^4 - Rs^6 + 12r^5(57R^2 - 4s^2) + 63r^4(16R^3 - Rs^2) + 6r^3(96R^4 - 36R^2s^2 + s^4) + r^2(-228R^3s^2 + 7Rs^4))}{(r-R)^2(-3r^2 - 12rR + s^2)^2}$$

$$|X_{44}X_{79}|^2: \quad \frac{4r^2(9r^5R - 81R^4s^2 + 2s^6 + 42r^4(3R^2 + s^2) + 3r^3(219R^3 + 82Rs^2) + 2r^2(756R^4 + 165R^2s^2 - 10s^4) + r(1296R^5 - 117R^3s^2 - 59Rs^4))}{(2r+3R)^2(-3r^2 - 12rR + s^2)^2}$$

$$|X_{44}X_{80}|^2: \quad \frac{4r^2(9r^5 + 90r^4R - 9R^3s^2 + 2Rs^4 + 9r^3(33R^2 - 2s^2) + 72r^2(5R^3 - Rs^2) + r(144R^4 - 63R^2s^2 + 5s^4))}{(2r-R)^2(-3r^2 - 12rR + s^2)^2}$$

$$|X_{44}X_{81}|^2: \quad \frac{r^2R(9r^6R - 25Rs^6 + 12r^5(9R^2 + s^2) + 3r^4(144R^3 + 67Rs^2) + 24r^3(24R^4 + 25R^2s^2 + s^4) + 11r^2(84R^3s^2 + 5Rs^4) + 20r(17R^2s^4 - s^6))}{(3r^4 + 15r^3R - 13rRs^2 + s^4 + 4r^2(3R^2 - s^2))^2}$$

$$|X_{44}X_{83}|^2: \quad \left(-9r^{14} - 252r^{13}R - 4rRs^{12} + s^{14} + 56r^3Rs^8(16R^2 - 3s^2) + r^{12}(-3024R^2 + 3s^2) - \right. \\ \left. 504r^{11}(40R^3 - Rs^2) + r^4s^6(14464R^4 - 1312R^2s^2 - 15s^4) - \right. \\ \left. 9r^{10}(8960R^4 - 932R^2s^2 + s^4) - 4r^9(48384R^5 - 14352R^3s^2 + 115Rs^4) - \right. \\ \left. r^8(258048R^6 - 194688R^4s^2 + 8176R^2s^4 + 117s^6) - \right. \\ \left. 16r^7(9216R^7 - 20160R^5s^2 + 3228R^3s^4 - 31Rs^6) + \right. \\ \left. r^6(205824R^6s^2 - 126976R^4s^4 + 7032R^2s^6 - 131s^8) - \right. \\ \left. 4r^5(24064R^5s^4 - 5808R^3s^6 + 125Rs^8) + r^2(-284R^2s^{10} + 21s^{12}) \right) / \\ \left(15r^6 + 180r^5R + 100rRs^4 - 5s^6 + r^4(720R^2 - 23s^2) + \right. \\ \left. 8r^3(120R^3 - 29Rs^2) - 7r^2(80R^2s^2 - 3s^4) \right)^2$$

$$|X_{44}X_{85}|^2: \quad \left(-9r^{10} - 252r^9R + s^{10} - 288r^7R(70R^2 + s^2) - 27r^8(112R^2 + s^2) - \right. \\ \left. 2r^6(40320R^4 + 126R^2s^2 + 13s^4) - 16r^5(12096R^5 - 468R^3s^2 + 23Rs^4) - \right. \\ \left. 6r^4(43008R^6 - 5568R^4s^2 + 332R^2s^4 + s^6) - 16r^3(9216R^7 - 2880R^5s^2 + 308R^3s^4 - 9Rs^6) + \right. \\ \left. r^2(9216R^6s^2 - 4736R^4s^4 + 612R^2s^6 + 3s^8) + 12r(16R^3s^6 - 3Rs^8) \right) / \\ \left(3r^4 + 36r^3R - s^2(16R^2 + s^2) + 4rR(48R^2 + s^2) + 2r^2(72R^2 + s^2) \right)^2$$

$$|X_{44}X_{86}|^2: \quad \left((9r^{10} + 180r^9R - 20rRs^8 - s^{10} + 1152r^7R(5R^2 + s^2) + 9r^8(160R^2 + 11s^2) + 2 \right. \\ \left. r^6(5760R^4 + 2646R^2s^2 + 73s^4) + 16r^5(576R^5 + 774R^3s^2 + 49Rs^4) + \right. \\ \left. 2r^4(6624R^4s^2 + 1036R^2s^4 + 15s^6) + 48r^3(106R^3s^4 - 7Rs^6) + 3r^2(68R^2s^6 - 9s^8) \right) / \\ \left(3r^4 + 24r^3R + 56rRs^2 - 5s^4 + 2r^2(24R^2 + 7s^2) \right)^2$$

$$|X_{44}X_{88}|^2: \quad \frac{9r^2R(81r^6R - Rs^6 + 36r^5(27R^2 - s^2) + 81r^4R(48R^2 + s^2) + 8r^3(648R^4 - 189R^2s^2 - s^4) + r^2(-900R^3s^2 + 143Rs^4) + r(52R^2s^4 - 4s^6))}{(-9r^4 + 9r^3R + 180r^2R^2 - 27rRs^2 + s^4)^2}$$

$$|X_{44}X_{89}|^2: \quad \frac{81r^2R^2(9r^6 + 108r^5R + 4rRs^4 - s^6 + 24r^3R(24R^2 + s^2) + r^4(432R^2 + 57s^2) + r^2(156R^2s^2 - 17s^4))}{(18r^4 + 63r^3R - 21rRs^2 + 2s^4 - 12r^2(3R^2 + s^2))^2}$$

$$\begin{aligned}
& |X_{44}X_{99}|^2: \\
& - \left((9r^{10} + 180r^9R + 28rRs^8 - s^{10} + 144r^7R(40R^2 + s^2) + 9r^8(160R^2 + 3s^2) + 2r^6 \right. \\
& \quad (5760R^4 + 54R^2s^2 + 13s^4) + 32r^5(288R^5 + 27R^3s^2 + 5Rs^4) + \\
& \quad \left. 2r^4(2016R^4s^2 - 596R^2s^4 + 3s^6) - 96r^3(5R^3s^4 - Rs^6) - 3r^2(60R^2s^6 + s^8) \right) / \\
& \quad \left((-3r^2 - 12rR + s^2)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2)) \right) \\
& |X_{44}X_{141}|^2: \quad (-9r^{10} - 180r^9R - 20rRs^8 + s^{10} - 384r^7R(15R^2 + s^2) - \\
& \quad 3r^8(480R^2 + 17s^2) - 18r^6(640R^4 + 38R^2s^2 - 7s^4) - 8r^5(1152R^5 + 12R^3s^2 - 85Rs^4) + \\
& \quad r^4(-960R^4s^2 + 904R^2s^4 - 78s^6) + 160r^3(5R^3s^4 - Rs^6) + r^2(20R^2s^6 + 11s^8) / \\
& \quad (4(3r^4 + 24r^3R - 16rRs^2 + s^4 + r^2(48R^2 - 4s^2))^2) \\
& |X_{44}X_{142}|^2: \\
& - \frac{1}{4(r+4R)^2(-3r^2-12rR+s^2)^2} (9r^8 + 180r^7R - 32rR^3s^4 - 4R^2s^6 + 384r^5R(15R^2 + s^2) + \\
& \quad 3r^6(480R^2 + 17s^2) + 3r^4(3840R^4 + 228R^2s^2 - 7s^4) + \\
& \quad 4r^3(2304R^5 + 24R^3s^2 - 29Rs^4) + r^2(960R^4s^2 - 136R^2s^4 + s^6)) \\
& |X_{44}X_{145}|^2: \quad \frac{63r^6+180r^5R-52rRs^4+s^6-9r^4(176R^2+s^2)-216r^3(24R^3-Rs^2)+r^2(900R^2s^2-7s^4)}{(-3r^2-12rR+s^2)^2} \\
& |X_{44}X_{190}|^2: \quad - \frac{r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5Rs^2)-r^2(68R^2s^2+s^4)}{(-3r^2-12rR+s^2)^2} \\
& |X_{44}X_{192}|^2: \quad (-9r^{10} - 180r^9R - 60rRs^8 + s^{10} - 3r^8(480R^2 - 7s^2) - 384r^7(15R^3 - 2Rs^2) - \\
& \quad 18r^6(640R^4 - 346R^2s^2 - 3s^4) - 32r^5(288R^5 - 573R^3s^2 + 17Rs^4) + \\
& \quad 2r^4(8736R^4s^2 - 2716R^2s^4 + 5s^6) + r^3(-9568R^3s^4 + 496Rs^6) + r^2(1236R^2s^6 - 13s^8) / \\
& \quad (3r^4 + 24r^3R + 8rRs^2 - s^4 + 2r^2(24R^2 + s^2))^2 \\
& |X_{44}X_{194}|^2: \\
& (-9r^{14} - 252r^{13}R - 52rRs^{12} + s^{14} - 8r^3Rs^8(896R^2 - 47s^2) + r^2s^{10}(964R^2 - 11s^2) + \\
& \quad r^{12}(-3024R^2 + 3s^2) - 72r^{11}(280R^3 - 3Rs^2) + r^4s^6(12928R^4 - 3328R^2s^2 - 15s^4) + \\
& \quad r^{10}(-80640R^4 + 2628R^2s^2 + 87s^4) + r^9(-193536R^5 + 11328R^3s^2 + 644Rs^4) + \\
& \quad r^8(-258048R^6 + 10368R^4s^2 + 4976R^2s^4 + 139s^6) - \\
& \quad 16r^7(9216R^7 + 2880R^5s^2 - 2124R^3s^4 - 7Rs^6) + r^6 \\
& \quad (-89088R^6s^2 + 86528R^4s^4 - 4968R^2s^6 + 61s^8) + 4r^5(11264R^5s^4 - 656R^3s^6 + 91Rs^8) / \\
& \quad (3r^6 + 36r^5R + 20rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 8r^3(24R^3 - Rs^2) + r^2(-112R^2s^2 + s^4))^2 \\
& |X_{44}X_{200}|^2: \quad - \frac{4R(9r^6R+28rR^2s^4-Rs^6+3r^5(36R^2-5s^2)+6r^4(72R^3-Rs^2)+3r^3(192R^4-28R^2s^2+s^4)+r^2(-228R^3s^2+Rs^4))}{(r-2R)^2(-3r^2-12rR+s^2)^2} \\
& |X_{44}X_{210}|^2: \\
& \frac{-9r^6R+4Rs^6-18r^5(6R^2-s^2)-6r^4(72R^3-7Rs^2)-12r^3(48R^4-19R^2s^2+s^4)+5r^2(84R^3s^2-5Rs^4)+r(-88R^2s^4+2s^6)}{9R(-3r^2-12rR+s^2)^2} \\
& |X_{44}X_{213}|^2: \quad - \frac{16r^2Rs^4(r^2-2rR+s^2)^2(r^3+8r^2R+16rRs^2-Rs^2)}{(3r^6+36r^5R-16rRs^4+s^6+r^4(144R^2-s^2)+4r^3R(48R^2+s^2)+r^2(32R^2s^2-3s^4))^2} \\
& |X_{44}X_{238}|^2: \quad - \frac{4r^2R(r^3+8r^2R+16rRs^2-Rs^2)}{(-3r^2-12rR+s^2)^2} \\
& |X_{44}X_{239}|^2: \quad - \frac{r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5Rs^2)-r^2(68R^2s^2+s^4)}{(-3r^2-12rR+s^2)^2} \\
& |X_{44}X_{244}|^2: \\
& - \left((4r^2R(36r^7 + 657r^6R - 4Rs^6 + 6r^5(738R^2 - 11s^2) + 18r^4(728R^3 - 29Rs^2) + \right. \\
& \quad 4r^3(3600R^4 - 981R^2s^2 + 4s^4) + r^2(-2820R^3s^2 + 353Rs^4) + 2r(92R^2s^4 - 5s^6)) / \\
& \quad \left. (-3r^4 + 30r^3R - 26rRs^2 + s^4 - 2r^2(-84R^2 + s^2))^2 \right)
\end{aligned}$$

$$|X_{44}X_{304}|^2:$$

$$\begin{aligned} & (-9r^{14} - 252r^{13}R - 36rR s^{12} + s^{14} - 8r^3R s^8 (224R^2 - 5s^2) - 9r^{12} (336R^2 + s^2) + \\ & r^2 s^{10} (420R^2 + s^2) - 72r^{11} (280R^3 - R s^2) + r^4 s^6 (4992R^4 - 1264R^2 s^2 - 11s^4) + \\ & r^{10} (-80640R^4 + 2628R^2 s^2 + 19s^4) - 4r^9 (48384R^5 - 4752R^3 s^2 + 131R s^4) + \\ & r^8 (-258048R^6 + 56448R^4 s^2 - 6720R^2 s^4 + 19s^6) - \\ & 16r^7 (9216R^7 - 4032R^5 s^2 + 1604R^3 s^4 - 57R s^6) + \\ & r^6 (9216R^6 s^2 - 41216R^4 s^4 + 5400R^2 s^6 - 11s^8) - 4r^5 (7680R^5 s^4 - 2800R^3 s^6 + 53R s^8) \Big) / \\ & (3r^6 + 36r^5R - 20rR s^4 + s^6 + r^4 (144R^2 - s^2) + 16r^3R (12R^2 + s^2) + r^2 (80R^2 s^2 - 3s^4))^2 \end{aligned}$$

$$|X_{44}X_{306}|^2: \quad \begin{aligned} & (-9r^{10} - 144r^9R - 32rR s^8 + s^{10} - 56r^3R s^4 (8R^2 + s^2) - 75r^8 (12R^2 + s^2) - \\ & 72r^7 (38R^3 + 7R s^2) - 2r^6 (2016R^4 + 888R^2 s^2 - 67s^4) - 16r^5 (144R^5 + 225R^3 s^2 - 40R s^4) + \\ & r^4 (-2928R^4 s^2 + 700R^2 s^4 - 54s^6) + r^2 (296R^2 s^6 + 3s^8) \Big) / \\ & (9r^4 + 54r^3R - 18rR s^2 + s^4 + r^2 (72R^2 - 6s^2))^2 \end{aligned}$$

$$|X_{44}X_{312}|^2: \quad \begin{aligned} & (-9r^{10} - 108r^9R - 36rR s^8 + s^{10} - 27r^8 (16R^2 + s^2) - \\ & 32r^3R s^4 (50R^2 + s^2) - 48r^7 (12R^3 - 7R s^2) + 2r^6 (642R^2 s^2 - 13s^4) + \\ & 64r^5 (30R^3 s^2 - R s^4) - 6r^4 (28R^2 s^4 + s^6) + 3r^2 (140R^2 s^6 + s^8) \Big) / \\ & (-3r^4 + 12r^3R - 20rR s^2 + s^4 + r^2 (96R^2 - 2s^2))^2 \end{aligned}$$

$$|X_{44}X_{319}|^2:$$

$$\begin{aligned} & - \Big((9r^{10} + 180r^9R + 252rR s^8 - 9s^{10} + 1152r^7R (5R^2 + s^2) + 9r^8 (160R^2 + 11s^2) + \\ & 2r^6 (5760R^4 + 2646R^2 s^2 - 251s^4) + 32r^5 (288R^5 + 387R^3 s^2 - 103R s^4) + 2r^4 \\ & (6624R^4 s^2 - 2324R^2 s^4 + 195s^6) + 144r^3 (14R^3 s^4 + 5R s^6) - 3r^2 (636R^2 s^6 + 17s^8) \Big) / \\ & (3r^4 + 24r^3R - 40rR s^2 + 3s^4 + 2r^2 (24R^2 - 5s^2))^2 \end{aligned}$$

$$|X_{44}X_{320}|^2: \quad \frac{-9r^6 - 108r^5R - 4rR s^4 + s^6 - 24r^3R (24R^2 + s^2) - 3r^4 (144R^2 + 19s^2) + r^2 (-156R^2 s^2 + 17s^4)}{(-3r^2 - 12rR + s^2)^2}$$

$$|X_{44}X_{321}|^2: \quad \begin{aligned} & (-9r^{10} - 144r^9R - 32rR s^8 + s^{10} + 8r^3R s^4 (-200R^2 + s^2) - \\ & 9r^8 (100R^2 + 3s^2) - 24r^7 (114R^3 - 7R s^2) - 2r^6 (2016R^4 - 840R^2 s^2 + 13s^4) - \\ & 16r^5 (144R^5 - 255R^3 s^2 + 10R s^4) + 6r^4 (536R^4 s^2 - 110R^2 s^4 - s^6) + r^2 (344R^2 s^6 + 3s^8) \Big) / \\ & (3r^4 + 6r^3R + 14rR s^2 - s^4 + r^2 (-24R^2 + 2s^2))^2 \end{aligned}$$

$$|X_{44}X_{345}|^2: \quad \begin{aligned} & (-9r^{10} - 108r^9R - 36rR s^8 + s^{10} - 3r^8 (144R^2 + 29s^2) - \\ & 192r^7 (3R^3 + 2R s^2) - 6r^6 (266R^2 s^2 - 23s^4) - 480r^5 (4R^3 s^2 - R s^4) - \\ & 2r^4 (92R^2 s^4 + 21s^6) + r^3 (-1600R^3 s^4 + 48R s^6) + r^2 (420R^2 s^6 - s^8) \Big) / \\ & (15r^4 + 84r^3R - 20rR s^2 + s^4 + r^2 (96R^2 - 8s^2))^2 \end{aligned}$$

$$|X_{44}X_{346}|^2: \quad \frac{s^4 (39r^6 + 212r^5R - 36rR s^4 + s^6 + 8r^3R (-200R^2 + s^2) - r^4 (176R^2 + 25s^2) + r^2 (420R^2 s^2 + s^4))}{(6r^4 + 48r^3R - 20rR s^2 + s^4 + r^2 (96R^2 - 5s^2))^2}$$

$$|X_{44}X_{350}|^2:$$

$$\begin{aligned} & (-9r^{14} - 252r^{13}R - 36rR s^{12} + s^{14} + 8r^3R s^8 (136R^2 - 19s^2) - 504r^{11}R (40R^2 + s^2) + \\ & r^2 s^{10} (324R^2 + 5s^2) - 9r^{12} (336R^2 + 5s^2) - r^{10} (80640R^4 + 252R^2 s^2 + 89s^4) - \\ & 4r^9 (48384R^5 - 4752R^3 s^2 + 11R s^4) + r^8 (-258048R^6 + 102528R^4 s^2 + 3888R^2 s^4 - 85s^6) - \\ & 16r^7 (9216R^7 - 13248R^5 s^2 - 592R^3 s^4 - 21R s^6) + \\ & r^6 (156672R^6 s^2 - 8192R^4 s^4 - 1704R^2 s^6 - 35s^8) - \\ & 4r^5 (3840R^5 s^4 + 1648R^3 s^6 - 3R s^8) + r^4 (-18048R^4 s^6 + 1600R^2 s^8 + s^{10}) \Big) / \\ & (3r^6 + 36r^5R + 28rR s^4 - s^6 + r^4 (144R^2 + 5s^2) + 32r^3 (6R^3 - R s^2) + r^2 (-208R^2 s^2 + s^4))^2 \end{aligned}$$

$$|X_{45}X_{46}|^2: \quad - \frac{4r^2R (-9R^3 s^2 - 4R s^4 + 3R^3 (3R^2 + s^2) + r^2 (72R^3 + 51R s^2) + r (144R^4 - 15R^2 s^2 + 5s^4))}{(r-R)^2 (3r^2 + 12rR + s^2)^2}$$

$$\begin{aligned}
|X_{45}X_{55}|^2 &= -\frac{r^2 R (9 r^4 R - 36 R^3 s^2 + 5 R s^4 + 12 r^3 (9 R^2 - 2 s^2) + 6 r^2 (72 R^3 - 11 R s^2) + 4 r (144 R^4 - 33 R^2 s^2 + 2 s^4))}{(r+R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{56}|^2 &= \frac{r^2 R (27 r^4 R + 36 R^3 s^2 + 7 R s^4 + 12 r^3 (15 R^2 + 2 s^2) + 6 r^2 (24 R^3 - 13 R s^2) - 4 r (144 R^4 + 3 R^2 s^2 + 2 s^4))}{(r-R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{57}|^2 &= -\frac{4 r^2 R (9 r^4 R - 36 R^3 s^2 - 7 R s^4 + 3 r^3 (36 R^2 + s^2) + r^2 (432 R^3 + 69 R s^2) + r (576 R^4 - 24 R^2 s^2 + 5 s^4))}{(r-2 R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{58}|^2 &= \frac{4 r^2 R (9 r^6 R - 175 r^2 R s^4 + 16 R s^6 + 36 r^5 (2 R^2 + s^2) + 18 r^4 (8 R^3 + 5 R s^2) + 72 r^3 (3 R^2 s^2 - s^4) - 4 r (64 R^2 s^4 - 5 s^6))}{(-9 r^4 - 48 r^3 R - 48 r^2 R^2 + 8 r R s^2 + s^4)^2} \\
|X_{45}X_{63}|^2 &= -\frac{R (9 r^6 R - R s^6 + 6 r^5 (18 R^2 + s^2) + 3 r^4 (144 R^3 + 35 R s^2) + 12 r^3 (48 R^4 + 10 R^2 s^2 + s^4) + r^2 (156 R^3 s^2 - 5 R s^4) + r (4 R^2 s^4 - 2 s^6))}{(r+R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{65}|^2 &= -\frac{r^2 (18 r^5 + 189 r^4 R - 36 R^3 s^2 - 7 R s^4 + 42 r^2 R (24 R^2 + s^2) + 12 r^3 (57 R^2 + s^2) + 2 r (288 R^4 - 30 R^2 s^2 + s^4))}{R (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{69}|^2 &= \frac{(-9 r^{10} - 180 r^9 R - 4 r R s^8 + s^{10} - 576 r^7 R (10 R^2 + s^2) - 9 r^8 (160 R^2 + 7 s^2) - 2 r^6 (5760 R^4 + 918 R^2 s^2 - 17 s^4) - 8 r^5 (1152 R^5 + 396 R^3 s^2 - 19 R s^4) + r^4 (-4032 R^4 s^2 - 200 R^2 s^4 + 30 s^6) - 96 r^3 (11 R^3 s^4 - R s^6) + r^2 (-108 R^2 s^6 + 7 s^8))}{(-3 r^4 - 24 r^3 R + 8 r R s^2 + s^4 + r^2 (-48 R^2 + 2 s^2))^2} \\
|X_{45}X_{72}|^2 &= -\frac{(3 r^2 + 6 r R + s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{R (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{75}|^2 &= \frac{(-9 r^{10} - 180 r^9 R - 5760 r^7 R^3 - 96 r^3 R^3 s^4 - 4 r R s^8 + s^{10} + 3 r^2 s^6 (-68 R^2 + s^2) - 9 r^8 (160 R^2 + 3 s^2) - 2 r^6 (5760 R^4 - 810 R^2 s^2 + 13 s^4) + r^5 (-9216 R^5 + 6048 R^3 s^2 + 56 R s^4) + r^4 (5184 R^4 s^2 + 616 R^2 s^4 - 6 s^6))}{(3 r^4 + 24 r^3 R + 16 r R s^2 + s^4 + 4 r^2 (12 R^2 + s^2))^2} \\
|X_{45}X_{76}|^2 &= \frac{(-9 r^{14} - 252 r^{13} R - 12 r R s^{12} + s^{14} + 5 r^2 s^{10} (-12 R^2 + s^2) - 8 r^3 R s^8 (32 R^2 + s^2) - 9 r^{12} (336 R^2 + 5 s^2) - 72 r^{11} (280 R^3 + 9 R s^2) + r^4 s^6 (2688 R^4 - 128 R^2 s^2 + s^4) - r^{10} (80640 R^4 + 3132 R^2 s^2 + 89 s^4) - 4 r^9 (48384 R^5 + 1008 R^3 s^2 + 101 R s^4) + r^8 (-258048 R^6 + 10368 R^4 s^2 + 1776 R^2 s^4 - 85 s^6) - 16 r^7 (9216 R^7 - 1728 R^5 s^2 - 700 R^3 s^4 - 9 R s^6) + r^6 (9216 R^6 s^2 + 14848 R^4 s^4 + 792 R^2 s^6 - 35 s^8) + 4 r^5 (1536 R^5 s^4 + 752 R^3 s^6 + 39 R s^8))}{(3 r^6 + 36 r^5 R + 4 r R s^4 + s^6 + 8 r^3 R (24 R^2 + s^2) + r^4 (144 R^2 + 7 s^2) + r^2 (-80 R^2 s^2 + 5 s^4))^2} \\
|X_{45}X_{78}|^2 &= -\frac{R (18 r^7 + 189 r^6 R + 4 r R s^4 - R s^6 + 12 r^5 (57 R^2 - 5 s^2) + 63 r^4 (16 R^3 - R s^2) + 6 r^3 (96 R^4 + 12 R^2 s^2 - s^4) + r^2 (156 R^3 s^2 - 17 R s^4))}{(r-R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{79}|^2 &= -\frac{4 r^2 (9 r^5 R - 81 R^4 s^2 - 18 R^2 s^4 + 2 s^6 + 6 r^4 (21 R^2 + 5 s^2) + 3 r^3 (219 R^3 + 44 R s^2) + 8 r^2 (189 R^4 - 3 R^2 s^2 + 2 s^4) + r (1296 R^5 - 477 R^3 s^2 + 43 R s^4))}{(2 r + 3 R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{80}|^2 &= \frac{4 r^2 (9 r^5 + 90 r^4 R + 297 r^3 R^2 - 9 R^3 s^2 - 4 R s^4 + 18 r^2 R (20 R^2 + s^2) + r (144 R^4 + 9 R^2 s^2 - s^4))}{(2 r - R) (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{81}|^2 &= \frac{((r^2 R (9 r^6 R - 49 R s^6 + 12 r^5 (9 R^2 + 2 s^2) + r^4 (432 R^3 + 321 R s^2) + 24 r^3 (24 R^4 + 41 R^2 s^2 + 4 s^4) + r^2 (1308 R^3 s^2 + 343 R s^4) + 28 r (25 R^2 s^4 - 2 s^6)))}{(-3 r^4 - 15 r^3 R + 11 r R s^2 + s^4 + 2 r^2 (-6 R^2 + s^2))^2}
\end{aligned}$$

$$|X_{45}X_{83}|^2:$$

$$\begin{aligned} & (-9 r^{14} - 252 r^{13} R - 76 r R s^{12} + s^{14} - 8 r^3 R s^8 (3296 R^2 - 159 s^2) + r^2 s^{10} (2116 R^2 - 27 s^2) + \\ & r^{12} (-3024 R^2 + 51 s^2) - 72 r^{11} (280 R^3 - 23 R s^2) + r^4 s^6 (148 096 R^4 - 17 920 R^2 s^2 - 159 s^4) - \\ & 9 r^{10} (8960 R^4 - 2212 R^2 s^2 - 15 s^4) + r^9 (-193 536 R^5 + 118 848 R^3 s^2 + 44 R s^4) - \\ & r^8 (258 048 R^6 - 379 008 R^4 s^2 + 20 368 R^2 s^4 + 21 s^6) - \\ & 16 r^7 (9216 R^7 - 38 592 R^5 s^2 + 9636 R^3 s^4 - 169 R s^6) + \\ & r^6 (402 432 R^6 s^2 - 417 280 R^4 s^4 + 31 896 R^2 s^6 - 227 s^8) - \\ & 4 r^5 (94 720 R^5 s^4 - 31 728 R^3 s^6 + 569 R s^8) \bigg) / \\ & (15 r^6 + 180 r^5 R + 20 r R s^4 + 5 s^6 + r^4 (720 R^2 - 13 s^2) + \\ & 8 r^3 (120 R^3 - 19 R s^2) + r^2 (-400 R^2 s^2 + 9 s^4))^2 \end{aligned}$$

$$|X_{45}X_{85}|^2:$$

$$\begin{aligned} & - \bigg((9 r^{10} + 252 r^9 R - s^{10} + 12 r R s^6 (16 R^2 + s^2) + 288 r^7 R (70 R^2 + s^2) + 27 r^8 (112 R^2 + s^2) + \\ & r^6 (80 640 R^4 + 252 R^2 s^2 + 26 s^4) + 8 r^5 (24 192 R^5 - 936 R^3 s^2 + 31 R s^4) + \\ & 6 r^4 (43 008 R^6 - 5568 R^4 s^2 + 92 R^2 s^4 + s^6) + 32 r^3 (4608 R^7 - 1440 R^5 s^2 - 26 R^3 s^4 + 3 R s^6) - \\ & r^2 (9216 R^6 s^2 + 2944 R^4 s^4 - 444 R^2 s^6 + 3 s^8) \bigg) / \\ & (3 r^4 + 36 r^3 R + 16 R^2 s^2 + s^4 + 4 r^2 (36 R^2 + s^2) + 4 r (48 R^3 + 5 R s^2))^2 \end{aligned}$$

$$|X_{45}X_{86}|^2:$$

$$\begin{aligned} & - \bigg((9 r^{10} + 180 r^9 R + 52 r R s^8 - s^{10} + 1152 r^7 R (5 R^2 + s^2) + 9 r^8 (160 R^2 + 11 s^2) + 2 \\ & r^6 (5760 R^4 + 2646 R^2 s^2 + 97 s^4) + 8 r^5 (1152 R^5 + 1548 R^3 s^2 + 107 R s^4) + \\ & 2 r^4 (6624 R^4 s^2 + 604 R^2 s^4 + 63 s^6) + 96 r^3 (37 R^3 s^4 - 6 R s^6) + r^2 (-852 R^2 s^6 + 21 s^8) \bigg) / \\ & (3 r^4 + 24 r^3 R + 64 r R s^2 + 5 s^4 + 16 r^2 (3 R^2 + s^2))^2 \end{aligned}$$

$$|X_{45}X_{88}|^2: \quad - \frac{81 r^2 R^2 (9 r^6 + 108 r^5 R + 28 r R s^4 - s^6 + r^4 (432 R^2 + 33 s^2) + 24 r^3 (24 R^3 - 7 R s^2) + r^2 (-228 R^2 s^2 + 7 s^4))}{(9 r^4 - 9 r^3 R - 3 r R s^2 + s^4 + 6 r^2 (-30 R^2 + s^2))^2}$$

$$\begin{aligned} |X_{45}X_{89}|^2: \quad & - \bigg((9 r^2 R (81 r^6 R - 25 R s^6 + 36 r^5 (27 R^2 + 2 s^2) + 27 r^4 (144 R^3 + 43 R s^2) + \\ & 8 r^3 (648 R^4 + 243 R^2 s^2 + 20 s^4) + r^2 (2556 R^3 s^2 + 47 R s^4) + 20 r (11 R^2 s^4 - 2 s^6) \bigg) / \\ & (-18 r^4 - 63 r^3 R + 36 r^2 R^2 + 27 r R s^2 + 2 s^4)^2 \end{aligned}$$

$$|X_{45}X_{99}|^2:$$

$$\begin{aligned} & - \bigg((9 r^{10} + 180 r^9 R + 4 r R s^8 - s^{10} - 3 r^2 s^6 (-36 R^2 + s^2) + 144 r^7 R (40 R^2 + s^2) + 9 r^8 \\ & (160 R^2 + 3 s^2) + 2 r^6 (5760 R^4 + 54 R^2 s^2 + 13 s^4) + 8 r^5 (1152 R^5 + 108 R^3 s^2 + 41 R s^4) + \\ & 2 r^4 (2016 R^4 s^2 - 68 R^2 s^4 + 3 s^6) + 48 r^3 (22 R^3 s^4 - 3 R s^6) \bigg) / \\ & \bigg((3 r^2 + 12 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \bigg) \end{aligned}$$

$$\begin{aligned} |X_{45}X_{141}|^2: \quad & (-9 r^{10} - 180 r^9 R - 20 r R s^8 + s^{10} - 192 r^7 R (30 R^2 + s^2) - \\ & 3 r^8 (480 R^2 + 13 s^2) - 6 r^6 (1920 R^4 - 78 R^2 s^2 - 7 s^4) + 8 r^5 R (-1152 R^4 + 372 R^2 s^2 + s^4) + \\ & r^4 (2112 R^4 s^2 - 872 R^2 s^4 + 6 s^6) - 32 r^3 (29 R^3 s^4 - 4 R s^6) + r^2 (116 R^2 s^6 - s^8) \bigg) / \\ & (4 (-3 r^4 - 24 r^3 R + 8 r R s^2 + s^4 + r^2 (-48 R^2 + 2 s^2))^2 \end{aligned}$$

$$|X_{45}X_{142}|^2:$$

$$\begin{aligned} & - \frac{1}{4 (r+4 R)^2 (3 r^2 + 12 r R + s^2)^2} (9 r^8 + 180 r^7 R + 160 r R^3 s^4 - 4 R^2 s^6 + 192 r^5 R (30 R^2 + s^2) + \\ & 3 r^6 (480 R^2 + 13 s^2) + 3 r^4 (3840 R^4 - 156 R^2 s^2 + 5 s^4) + \\ & 4 r^3 (2304 R^5 - 744 R^3 s^2 + 19 R s^4) + r^2 (-2112 R^4 s^2 + 104 R^2 s^4 + s^6) \end{aligned}$$

$$\begin{aligned}
|X_{45}X_{145}|^2 &= \frac{63 r^6 + 180 r^5 R + 20 r R s^4 + s^6 - 9 r^4 (176 R^2 - 7 s^2) - 216 r^3 (24 R^3 - R s^2) + r^2 (-252 R^2 s^2 + 17 s^4)}{(3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{190}|^2 &= - \frac{(r^2 + 4 r R + s^2)^2 (9 r^6 + 108 r^5 R + 28 r R s^4 - s^6 + r^4 (432 R^2 + 33 s^2) + 24 r^3 (24 R^3 - 7 R s^2) + r^2 (-228 R^2 s^2 + 7 s^4))}{(9 r^4 + 72 r^3 R + 144 r^2 R^2 - s^4)^2} \\
|X_{45}X_{192}|^2 &= \frac{(-9 r^{10} - 180 r^9 R + 12 r R s^8 + s^{10} - 3 r^8 (480 R^2 + s^2) - 384 r^7 (15 R^3 - R s^2) - 6 r^6 (1920 R^4 - 654 R^2 s^2 - 5 s^4) + r^5 (-9216 R^5 + 12 192 R^3 s^2 + 104 R s^4) + 2 r^4 (5664 R^4 s^2 - 412 R^2 s^4 + 17 s^6) - 32 r^3 (95 R^3 s^4 - 2 R s^6) + r^2 (-300 R^2 s^6 + 11 s^8))}{(3 r^4 + 24 r^3 R + 16 r R s^2 + s^4 + 4 r^2 (12 R^2 + s^2))^2} \\
|X_{45}X_{194}|^2 &= \frac{(-9 r^{14} - 252 r^{13} R + 20 r R s^{12} + s^{14} - 88 r^3 R s^8 (64 R^2 - s^2) - 360 r^{11} R (56 R^2 + s^2) - 21 r^{12} (144 R^2 + s^2) - 3 r^{10} (26 880 R^4 + 1044 R^2 s^2 - 5 s^4) + r^4 s^6 (40 576 R^4 - 2752 R^2 s^2 + 57 s^4) - 4 r^9 (48 384 R^5 + 4848 R^3 s^2 + 13 R s^4) + r^8 (-258 048 R^6 - 81 792 R^4 s^2 + 2864 R^2 s^4 + 91 s^6) - 16 r^7 (9216 R^7 + 12 096 R^5 s^2 - 1836 R^3 s^4 - R s^6) + r^6 (-187 392 R^6 s^2 + 65 024 R^4 s^4 + 600 R^2 s^6 + 109 s^8) + 4 r^5 (512 R^5 s^4 + 6256 R^3 s^6 + 7 R s^8) + r^2 (-380 R^2 s^{10} + 13 s^{12}))}{(3 r^6 + 36 r^5 R + 4 r R s^4 + s^6 + 8 r^3 R (24 R^2 + s^2) + r^4 (144 R^2 + 7 s^2) + r^2 (-80 R^2 s^2 + 5 s^4))^2} \\
|X_{45}X_{200}|^2 &= - \frac{4 R (9 r^6 R + 4 r R^2 s^4 - R s^6 + 3 r^5 (36 R^2 - 7 s^2) + 6 r^4 (72 R^3 - 5 R s^2) + 3 r^3 (192 R^4 + 4 R^2 s^2 - s^4) + r^2 (156 R^3 s^2 - 11 R s^4))}{(r - 2 R)^2 (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{210}|^2 &= \frac{-9 r^6 R + 4 R s^6 - 18 r^5 (6 R^2 - s^2) - 6 r^4 R (72 R^2 + s^2) - 12 r^3 (48 R^4 + 13 R^2 s^2 - s^4) + r^2 (-348 R^3 s^2 + 11 R s^4) + r (-40 R^2 s^4 + 2 s^6)}{9 R (3 r^2 + 12 r R + s^2)^2} \\
|X_{45}X_{213}|^2 &= - \frac{64 r^2 R s^4 (r^2 + r R + s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(3 r^6 + 36 r^5 R - 8 r R s^4 - s^6 + r^4 (144 R^2 + s^2) + 4 r^3 (48 R^3 + 5 R s^2) + r^2 (64 R^2 s^2 - 3 s^4))^2} \\
|X_{45}X_{238}|^2 &= - \frac{4 r^2 R (3 r^2 + 12 r R - 5 s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(9 r^4 + 72 r^3 R + 144 r^2 R^2 - s^4)^2} \\
|X_{45}X_{239}|^2 &= \frac{1}{(9 r^4 + 72 r^3 R + 144 r^2 R^2 - s^4)^2} \\
&\quad (-9 r^{10} - 180 r^9 R + 28 r R s^8 + s^{10} - 3 r^8 (480 R^2 - 7 s^2) - 384 r^7 (15 R^3 - 2 R s^2) + r^6 (-11 520 R^4 + 6228 R^2 s^2 + 86 s^4) - 24 r^5 (384 R^5 - 764 R^3 s^2 - R s^4) + 2 r^4 (8736 R^4 s^2 - 1644 R^2 s^4 + 37 s^6) - 32 r^3 (251 R^3 s^4 - 8 R s^6) + r^2 (-268 R^2 s^6 + 19 s^8)) \\
|X_{45}X_{244}|^2 &= - \left((4 r^2 R (36 r^7 + 657 r^6 R - 16 R s^6 + 12 r^5 (369 R^2 + s^2) + 18 r^4 (728 R^3 - R s^2) + 4 r^3 (3600 R^4 - 909 R^2 s^2 + s^4) + r^2 (-4740 R^3 s^2 + 221 R s^4) + r (496 R^2 s^4 - 4 s^6))) \right) / (3 r^4 - 30 r^3 R - 2 r R s^2 + s^4 + 4 r^2 (-42 R^2 + s^2))^2 \\
|X_{45}X_{304}|^2 &= \frac{(-9 r^{14} - 252 r^{13} R - 12 r R s^{12} + s^{14} - 9 r^{12} (336 R^2 + s^2) + 8 r^3 R s^8 (16 R^2 + 5 s^2) - 72 r^{11} (280 R^3 - R s^2) + r^{10} (-80 640 R^4 + 2628 R^2 s^2 + 19 s^4) - 4 r^9 (48 384 R^5 - 4752 R^3 s^2 + 77 R s^4) + r^8 (-258 048 R^6 + 56 448 R^4 s^2 - 3744 R^2 s^4 + 19 s^6) - 16 r^7 (9216 R^7 - 4032 R^5 s^2 + 668 R^3 s^4 - 9 R s^6) + r^6 (9216 R^6 s^2 - 8960 R^4 s^4 - 648 R^2 s^6 - 11 s^8) - 4 r^5 (1536 R^5 s^4 + 656 R^3 s^6 - 79 R s^8) + r^4 (-2688 R^4 s^6 + 752 R^2 s^8 - 11 s^{10}) + r^2 (-60 R^2 s^{10} + s^{12}))}{(3 r^6 + 36 r^5 R - 4 r R s^4 - s^6 + 32 r^3 R (6 R^2 + s^2) + r^4 (144 R^2 + s^2) + r^2 (112 R^2 s^2 - 3 s^4))^2} \\
|X_{45}X_{306}|^2 &= \frac{(-9 r^{10} - 144 r^9 R - 8 r R s^8 + s^{10} - 3 r^8 (300 R^2 + 17 s^2) - 72 r^7 (38 R^3 + 3 R s^2) + r^6 (-4032 R^4 - 528 R^2 s^2 + 38 s^4) - 8 r^5 (288 R^5 + 162 R^3 s^2 - 11 R s^4) - 2 r^4 (696 R^4 s^2 + 34 R^2 s^4 - 9 s^6) + r^3 (-544 R^3 s^4 + 88 R s^6) + r^2 (-88 R^2 s^6 + 3 s^8))}{(-9 r^4 - 54 r^3 R - 72 r^2 R^2 + 6 r R s^2 + s^4)^2}
\end{aligned}$$

$$|X_{45}X_{312}|^2: \quad \left(-9r^{10} - 108r^9R - 12rRs^8 + s^{10} + 16r^3Rs^4(-4R^2 + s^2) - 27r^8(16R^2 + s^2) - 48r^7(12R^3 - 5Rs^2) + r^6(516R^2s^2 - 26s^4) + 8r^5(48R^3s^2 + 31Rs^4) + 6r^4(52R^2s^4 - s^6) + r^2(-60R^2s^6 + 3s^8) \right) / \left(3r^4 - 12r^3R + 4rRs^2 + s^4 + r^2(-96R^2 + 4s^2) \right)^2$$

$$|X_{45}X_{319}|^2: \quad - \left((9r^{10} + 180r^9R + 36rRs^8 - 9s^{10} + 1152r^7R(5R^2 + s^2) + 9r^8(160R^2 + 11s^2) + 2r^6(5760R^4 + 2646R^2s^2 - 155s^4) + 8r^5(1152R^5 + 1548R^3s^2 - 211Rs^4) + 2r^4(6624R^4s^2 - 68R^2s^4 - 93s^6) + 288r^3(23R^3s^4 - 2Rs^6) + 3r^2(420R^2s^6 - 17s^8)) / (3r^4 + 24r^3R - 32rRs^2 - 3s^4 + 8r^2(6R^2 - s^2))^2 \right)$$

$$|X_{45}X_{320}|^2: \quad - \frac{1}{(9r^4 + 72r^3R + 144r^2R^2 - s^4)^2} \left(81r^{10} + 1620r^9R + 4rRs^8 - s^{10} + 3456r^7R(15R^2 + s^2) + 27r^8(480R^2 + 17s^2) + 18r^6(5760R^4 + 342R^2s^2 + 5s^4) + 72r^5(1152R^5 + 12R^3s^2 + 5Rs^4) + 6r^4(1440R^4s^2 + 84R^2s^4 - 7s^6) + 96r^3(21R^3s^4 - 2Rs^6) + r^2(12R^2s^6 - 11s^8) \right)$$

$$|X_{45}X_{321}|^2: \quad \left(-9r^{10} - 144r^9R - 8rRs^8 + s^{10} + 8r^3Rs^4(4R^2 + s^2) - 9r^8(100R^2 + 3s^2) - 24r^7(114R^3 - 5Rs^2) - 2r^6(2016R^4 - 600R^2s^2 + 13s^4) - 8r^5(288R^5 - 318R^3s^2 - 19Rs^4) + 6r^4(280R^4s^2 + 82R^2s^4 - s^6) + r^2(-136R^2s^6 + 3s^8) \right) / (3r^4 + 6r^3R + 10rRs^2 + s^4 + 4r^2(-6R^2 + s^2))^2$$

$$|X_{45}X_{345}|^2: \quad \left(-9r^{10} - 108r^9R - 12rRs^8 + s^{10} - 3r^8(144R^2 + 13s^2) - 96r^7(6R^3 - Rs^2) + r^6(-60R^2s^2 + 42s^4) - 24r^5(16R^3s^2 + 3Rs^4) + 2r^4(52R^2s^4 + 3s^6) + r^3(-64R^3s^4 + 96Rs^6) - r^2(60R^2s^6 + s^8) \right) / (-15r^4 - 84r^3R + 4rRs^2 + s^4 - 2r^2(48R^2 + s^2))^2$$

$$|X_{45}X_{346}|^2: \quad \frac{s^4(15r^6 + 116r^5R - 12rRs^4 + s^6 + r^4(208R^2 - s^2) - 8r^3(8R^3 - 7Rs^2) + r^2(-60R^2s^2 + s^4))}{(-6r^4 - 48r^3R + 4rRs^2 + s^4 + r^2(-96R^2 + s^2))^2}$$

$$|X_{45}X_{350}|^2: \quad \left(-9r^{14} - 252r^{13}R - 12rRs^{12} + s^{14} - 40r^3Rs^8(40R^2 - s^2) - 504r^{11}R(40R^2 + s^2) + r^2s^{10}(36R^2 + 5s^2) - 9r^{12}(336R^2 + 5s^2) + r^4s^6(1920R^4 - 224R^2s^2 + s^4) - r^{10}(80640R^4 + 252R^2s^2 + 89s^4) + r^9(-193536R^5 + 19008R^3s^2 + 76Rs^4) + r^8(-258048R^6 + 102528R^4s^2 + 4944R^2s^4 - 85s^6) - 16r^7(9216R^7 - 13248R^5s^2 - 664R^3s^4 - 45Rs^6) + r^6(156672R^6s^2 - 18944R^4s^4 + 888R^2s^6 - 35s^8) + r^5(-39936R^5s^4 + 2624R^3s^6 + 444Rs^8) \right) / (3r^6 + 36r^5R - 4rRs^4 + s^6 + r^4(144R^2 + 7s^2) + 16r^3(12R^3 - Rs^2) + r^2(-176R^2s^2 + 5s^4))^2$$

$$|X_{46}X_{55}|^2: \quad - \frac{r^2(2r-R)R(r+3R)^2}{(r^2-R^2)^2}$$

$$|X_{46}X_{56}|^2: \quad \frac{r^2R(-2r+R)}{(r-R)^2}$$

$$|X_{46}X_{57}|^2: \quad \frac{4r^2R^3(-2r+R)}{(r^2-3rR+2R^2)^2}$$

$$|X_{46}X_{58}|^2: \quad - \frac{4r^2R(3r^5+9r^4R-R^3s^2+2r^3(5R^2-2s^2)+r^2(11R^3-3Rs^2)+r(16R^4-6R^2s^2+s^4))}{(r-R)^2(-3r^2-4rR+s^2)^2}$$

$$|X_{46}X_{63}|^2: \quad \frac{R^2(r^4+2r^3R+R^2s^2+2rR(-8R^2+s^2)-3r^2(R^2+s^2))}{(r^2-R^2)^2}$$

$$|X_{46}X_{65}|^2: \quad - \frac{r^2(2r-R)(r+R)^2}{(r-R)^2R}$$

$$\begin{aligned}
& |X_{46}X_{69}|^2: \frac{-r^8-12r^7R-16rR^3s^4+R^2s^6-r^6(47R^2+7s^2)-8r^5(7R^3+2Rs^2)+r^4(16R^4-9R^2s^2+9s^4)+r^3(72R^3s^2-4Rs^4)+r^2(7R^2s^4-s^6)}{(r-R)^2(r^2+4rR-s^2)^2} \\
& |X_{46}X_{72}|^2: \frac{-r^5+R^3s^2+r^3(9R^2+s^2)+r^2(4R^3-3Rs^2)+r(-16R^4+R^2s^2)}{(r-R)^2R} \\
& |X_{46}X_{75}|^2: \frac{-r^8+12r^7R+16rR^3s^4-R^2s^6+4r^3Rs^2(18R^2+s^2)+r^6(47R^2+3s^2)+8r^5(7R^3-2Rs^2)+r^4(-16R^4-19R^2s^2+3s^4)+r^2(-19R^2s^4+s^6)}{(r-R)^2(r^2+4rR+s^2)^2} \\
& |X_{46}X_{76}|^2: \frac{(-r^{12}-20r^{11}R-24rR^3s^8+R^2s^{10}-r^{10}(159R^2+5s^2)-8r^9(78R^3+5Rs^2)+r^7(-768R^5+88R^3s^2)+r^2s^6(144R^4+5R^2s^2-s^4)-r^8(1184R^4+75R^2s^2+10s^4)+2r^6(128R^6+232R^4s^2+101R^2s^4-5s^6)+8r^5(96R^5s^2-3R^3s^4+5Rs^6)-r^4(256R^4s^4+134R^2s^6+5s^8)+r^3(-256R^5s^4+8R^3s^6+20Rs^8))}{((r-R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2)))^2} \\
& |X_{46}X_{78}|^2: \frac{R(-6r^3-19r^2R+Rs^2+2r(-8R^2+s^2))}{(r-R)^2} \\
& |X_{46}X_{79}|^2: \frac{-4r^2(r^3R-R^2s^2+4r^2(2R^2+s^2))+r(16R^3-3Rs^2)}{(2r^2+rR-3R^2)^2} \\
& |X_{46}X_{80}|^2: \frac{4r^2(r^3+2r^2R-4R^3-rs^2+R^2s^2)}{(r-R)^2(2r-R)} \\
& |X_{46}X_{81}|^2: \frac{r^2R(r^4R+2r^3(R^2+s^2)-r^2R(3R^2+s^2)+Rs^2(R^2+2s^2)-2r(8R^4-7R^2s^2+3s^4))}{(r^3+Rs^2-r(R^2+s^2))^2} \\
& |X_{46}X_{83}|^2: \frac{(-r^{12}-28r^{11}R+R^2s^{10}+8rRs^8(-5R^2+s^2)+r^{10}(-311R^2+3s^2)-16r^9(115R^3-7Rs^2)+r^2s^6(592R^4-163R^2s^2-9s^4)+r^8(-6560R^4+1029R^2s^2+6s^4)-8r^7(1888R^5-533R^3s^2+28Rs^4)-2r^6(11136R^6-5192R^4s^2+571R^2s^4+5s^6)-8r^5(2048R^7-2112R^5s^2+249R^3s^4-33Rs^6)+r^4(13312R^6s^2-6016R^4s^4-342R^2s^6-21s^8)+r^3(-4096R^5s^4+1336R^3s^6+124Rs^8))}{((r-R)^2(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2)))^2} \\
& |X_{46}X_{85}|^2: \frac{1}{(r-R)^2(r^2+8rR+16R^2+s^2)^2} \\
& \quad (-r^8-20r^7R+8rR^3s^4+R^2s^6-16r^5R(39R^2+s^2)-3r^6(53R^2+s^2)+r^4(-1184R^4+3R^2s^2-3s^4)-4r^3(192R^5-6R^3s^2+7Rs^4)+r^2(256R^6-208R^4s^2+19R^2s^4-s^6)) \\
& |X_{46}X_{86}|^2: \frac{1}{(r-R)^2(r^2+4rR+5s^2)^2} \\
& \quad (-r^8-12r^7R+R^2s^6+3r^2s^4(R^2-3s^2)+8rRs^4(-2R^2+s^2)-56r^5R(R^2+s^2)-r^6(47R^2+11s^2)+r^4(16R^4-125R^2s^2-19s^4)-4r^3(2R^3s^2+17Rs^4)) \\
& |X_{46}X_{88}|^2: \frac{-r^2R(27r^4R-9R^3s^2+2Rs^4+6r^3(51R^2-s^2)+r^2(99R^3-39Rs^2)+2r(72R^4-21R^2s^2+s^4))}{(r-R)^2(3r^2-15rR+s^2)^2} \\
& |X_{46}X_{89}|^2: \frac{r^2R(27r^4R+9R^3s^2+4Rs^4+12r^3(-3R^2+s^2)+3r^2(39R^3-31Rs^2)-4r(36R^4-30R^2s^2+5s^4))}{(r-R)^2(-6r^2+3rR+2s^2)^2} \\
& |X_{46}X_{99}|^2: \frac{-r^8-12r^7R-16rR^3s^4+R^2s^6+12r^3Rs^2(2R^2+s^2)-r^6(47R^2+3s^2)-8r^5(7R^3-4Rs^2)+r^4(16R^4+35R^2s^2-3s^4)+r^2(3R^2s^4-s^6)}{(r-R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
& |X_{46}X_{141}|^2: \frac{1}{4(r-R)^2(r^2+4rR-s^2)^2} \\
& \quad (-r^8-14r^7R+R^2s^6-r^6(69R^2+5s^2)-2r^5(70R^3+9Rs^2)+r^4(-112R^4+11R^2s^2+9s^4)+r^3(-64R^5+104R^3s^2+14Rs^4)+r^2(68R^4s^2-19R^2s^4-3s^6)+r(-20R^3s^4+2Rs^6))
\end{aligned}$$

$$\begin{aligned}
|X_{46}X_{142}|^2 &: -\frac{r^6+14r^5R-4R^4s^2+r^4(69R^2+5s^2)+2r^3(70R^3+9Rs^2)+r^2(112R^4+5R^2s^2)+8r(8R^5-3R^3s^2)}{4(r^2+3rR-4R^2)^2} \\
|X_{46}X_{145}|^2 &: \frac{7r^4-64r^3R+R^2s^2-4rR(4R^2+s^2)+3r^2(23R^2+s^2)}{(r-R)^2} \\
|X_{46}X_{190}|^2 &: \frac{1}{(r-R)^2(-3r^2-12rR+s^2)^2} \\
& \quad (-r^8-4r^7R-32rR^3s^4+R^2s^6+r^6(41R^2-3s^2)+8r^5(25R^3+8Rs^2)- \\
& \quad r^4(112R^4+365R^2s^2+3s^4)-4r^3(256R^5-26R^3s^2-9Rs^4)+r^2(320R^4s^2-5R^2s^4-s^6)) \\
|X_{46}X_{192}|^2 &: \frac{1}{(r-R)^2(r^2+4rR+s^2)^2} \\
& \quad (-r^8-8r^7R+R^2s^6+r^6(-3R^2+s^2)-4rRs^4(6R^2+s^2)+r^5(88R^3+60Rs^2)- \\
& \quad 64r^3R(4R^4+2R^2s^2+s^4)+r^4(80R^4-117R^2s^2+5s^4)+r^2(144R^4s^2+79R^2s^4+3s^6)) \\
|X_{46}X_{194}|^2 &: \\
& \quad (-r^{12}-16r^{11}R+R^2s^{10}-4rRs^8(4R^2+s^2)-r^{10}(83R^2+s^2)+r^9(-64R^3+12Rs^2)+ \\
& \quad 16r^7(112R^5-33R^3s^2)+r^8(736R^4+21R^2s^2+6s^4)+ \\
& \quad r^6(-768R^6-864R^4s^2+370R^2s^4+14s^6)-8r^5(512R^7-288R^5s^2+78R^3s^4+13Rs^6)+ \\
& \quad r^4(256R^6s^2-608R^4s^4+346R^2s^6+11s^8)+16r^3(32R^5s^4-11R^3s^6-5Rs^8)+ \\
& \quad r^2(-32R^4s^6+81R^2s^8+3s^{10}))/((r-R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2) \\
|X_{46}X_{200}|^2 &: -\frac{4R(r^5+3r^4R+16rR^4-R^3s^2-r^3(6R^2+s^2)+r^2(-13R^3+2Rs^2))}{(r^2-3rR+2R^2)^2} \\
|X_{46}X_{210}|^2 &: \frac{5r^4R+4R^3s^2+2r^3(11R^2+s^2)+r^2(R^3-12Rs^2)+r(-64R^4+6R^2s^2)}{9(r-R)^2R} \\
|X_{46}X_{213}|^2 &: -\left((4r^2R(-R^3s^6+r^7(R^2-s^2))+r^6(16R^3-5Rs^2)+r^5(96R^4+7R^2s^2-s^4)+\right. \\
& \quad r^4(256R^5+47R^3s^2-10Rs^4)+r^3(256R^6+40R^4s^2+3R^2s^4+s^6)+ \\
& \quad r^2(112R^5s^2-34R^3s^4-5Rs^6)+r(8R^4s^4-3R^2s^6+s^8)))/ \\
& \quad \left((r-R)^2(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2\right) \\
|X_{46}X_{238}|^2 &: -\frac{4r^2R(4r^5+33r^4R-4R^3s^2+r^3(76R^2-4s^2)+r^2(48R^3-2Rs^2)+4r(16R^4-5R^2s^2))}{(r-R)^2(-3r^2-12rR+s^2)^2} \\
|X_{46}X_{239}|^2 &: \frac{1}{(r-R)^2(-3r^2-12rR+s^2)^2} \\
& \quad (-r^8-16r^7R+R^2s^6+r^6(-91R^2+s^2)-4rRs^4(2R^2+s^2)+r^5(-232R^3+44Rs^2)+ \\
& \quad r^4(-304R^4+171R^2s^2+5s^4)-8r^3(32R^5-2R^3s^2+9Rs^4)+r^2(-112R^4s^2+71R^2s^4+3s^6)) \\
|X_{46}X_{244}|^2 &: -\frac{4r^2R(3r^5+39r^4R-R^3s^2+4r^3(31R^2-s^2)-r^2(13R^3+21Rs^2)+r(16R^4+s^4))}{(r-R)^2(r^2-14rR+s^2)^2} \\
|X_{46}X_{304}|^2 &: (-r^{12}-20r^{11}R-24rR^3s^8+R^2s^{10}+8r^9R(-78R^2+s^2)-r^{10}(159R^2+s^2)+ \\
& \quad r^2s^6(144R^4+R^2s^2-s^4)+r^8(-1184R^4+81R^2s^2+2s^4)-8r^7(96R^5+5R^3s^2+8Rs^4)+ \\
& \quad 2r^6(128R^6-440R^4s^2-65R^2s^4+s^6)-8r^5(96R^5s^2-17R^3s^4-7Rs^6)+ \\
& \quad r^4(256R^4s^4-178R^2s^6-s^8)+r^3(-256R^5s^4+40R^3s^6+20Rs^8))/ \\
& \quad ((r-R)^2(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2) \\
|X_{46}X_{306}|^2 &: \frac{1}{(r-R)^2(-3r^2-6rR+s^2)^2} \\
& \quad (-r^8-12r^7R-20rR^3s^4+R^2s^6-r^6(47R^2+7s^2)-4r^5(23R^3+10Rs^2)+ \\
& \quad r^4(-108R^4-29R^2s^2+9s^4)+r^3(-64R^5+80R^3s^2+4Rs^4)+r^2(68R^4s^2+3R^2s^4-s^6)) \\
|X_{46}X_{312}|^2 &: \\
& \quad \frac{-r^8-4r^7R-24rR^3s^4+R^2s^6+r^6(17R^2-3s^2)+48r^5R(R^2+s^2)-r^4(157R^2s^2+3s^4)-4r^3(64R^5-6R^3s^2-5Rs^4)+r^2(144R^4s^2+3R^2s^4-s^6)}{(r-R)^2(r^2-8rR+s^2)^2}
\end{aligned}$$

$$|X_{46}X_{319}|^2:$$

$$\frac{-r^8-12r^7R-144rR^3s^4+9R^2s^6-r^6(47R^2+11s^2)-8r^5(7R^3+6Rs^2)+r^4(16R^4-37R^2s^2+45s^4)+36r^3(6R^3s^2-Rs^4)+r^2(99R^2s^4-9s^6)}{(r-R)^2(r^2+4rR-3s^2)^2}$$

$$|X_{46}X_{320}|^2:$$

$$\frac{-9r^8+108r^7R+16rR^3s^4-R^2s^6+4r^3Rs^2(-54R^2+s^2)+r^6(423R^2+51s^2)+24r^5(21R^3+2Rs^2)-3r^4(48R^4+R^2s^2+7s^4)+r^2(5R^2s^4+s^6)}{(r-R)^2(-3r^2-12rR+s^2)^2}$$

$$|X_{46}X_{321}|^2:$$

$$\frac{1}{(r-R)^2(r^2-2rR+s^2)^2} \left(-r^8-8r^7R-20rR^3s^4+R^2s^6-r^6(11R^2+3s^2)+4r^5(7R^3+8Rs^2)+r^4(52R^4-49R^2s^2-3s^4)-8r^3(8R^5+5R^3s^2-Rs^4)+r^2(68R^4s^2+11R^2s^4-s^6) \right)$$

$$|X_{46}X_{345}|^2:$$

$$-\frac{1}{(r-R)^2(-5r^2-8rR+s^2)^2} \left(r^8+12r^7R+24rR^3s^4-R^2s^6+r^6(39R^2+7s^2)+16r^5(7R^3+4Rs^2)+r^4(256R^4+73R^2s^2-9s^4)+4r^3(64R^5-26R^3s^2-3Rs^4)+r^2(-144R^4s^2+R^2s^4+s^6) \right)$$

$$|X_{46}X_{346}|^2:$$

$$\frac{-24rR^3s^4+R^2s^6-4r^5(4R^3+3Rs^2)+16r^3R(-16R^4+4R^2s^2+s^4)+r^4(-128R^4-116R^2s^2+3s^4)+r^2(144R^4s^2+R^2s^4-s^6)}{(r-R)^2(-2r^2-8rR+s^2)^2}$$

$$|X_{46}X_{350}|^2:$$

$$-\left((r^{12}+20r^{11}R+24rR^3s^8-R^2s^{10}+24r^9R(26R^2+s^2)+r^{10}(159R^2+5s^2)+r^2s^6(-144R^4+11R^2s^2+s^4)+r^8(1184R^4-133R^2s^2+10s^4)+8r^7(96R^5-119R^3s^2-6Rs^4)-2r^6(128R^6+744R^4s^2+109R^2s^4-5s^6)-8r^5(32R^5s^2-91R^3s^4+11Rs^6)+r^4(256R^4s^4+342R^2s^6+5s^8)+4r^3(64R^5s^4-58R^3s^6-9Rs^8) \right) / \left((r-R)^2(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2 \right)$$

$$|X_{55}X_{56}|^2:$$

$$\frac{4r^2R^3(-2r+R)}{(r^2-R^2)^2}$$

$$|X_{55}X_{57}|^2:$$

$$-\frac{r^2(2r-R)R(r+4R)^2}{(r^2-rR-2R^2)^2}$$

$$|X_{55}X_{58}|^2:$$

$$-\frac{r^2R^2(5r^4+52r^3R-4R^2s^2-3s^4+18r^2(6R^2+s^2)+4r(16R^3+5Rs^2))}{(r+R)^2(-3r^2-4rR+s^2)^2}$$

$$|X_{55}X_{63}|^2:$$

$$\frac{R(-r^3-8r^2R+Rs^2+r(-16R^2+s^2))}{(r+R)^2}$$

$$|X_{55}X_{65}|^2:$$

$$-\frac{r^2(2r-R)(r+2R)^2}{R(r+R)^2}$$

$$|X_{55}X_{69}|^2:$$

$$\frac{r^7R-6r^2R^2s^4+R^2s^6+4r^6(3R^2-2s^2)+r^5(48R^3-49Rs^2)+r^4(64R^4-119R^2s^2+8s^4)+r^3(-96R^3s^2+15Rs^4)+r(-16R^3s^4+Rs^6)}{(r+R)^2(r^2+4rR-s^2)^2}$$

$$|X_{55}X_{72}|^2:$$

$$\frac{-r^5-7r^4R+R^3s^2+r^3(-20R^2+s^2)+2rR^2(-8R^2+s^2)+r^2(-27R^3+2Rs^2)}{R(r+R)^2}$$

$$|X_{55}X_{75}|^2:$$

$$\frac{R(r^7+12r^6R-18r^2Rs^4+Rs^6+3r^5(16R^2+9s^2)+r^4(64R^3+105Rs^2)+r^3(96R^2s^2-5s^4)+r(-16R^2s^4+s^6))}{(r+R)^2(r^2+4rR+s^2)^2}$$

$$|X_{55}X_{76}|^2:$$

$$\left(R(r^{11}+20r^{10}R+Rs^{10}+5r^9(32R^2+s^2))+r^8(640R^3+9Rs^2)+2r^7(640R^4-132R^2s^2+5s^4)+4r^6(256R^5-316R^3s^2+49Rs^4)+r^5(-1536R^4s^2+632R^2s^4+10s^6)+r^4(544R^3s^4-66Rs^6)+r^3(-256R^4s^4+8R^2s^6+5s^8)+16r^2(9R^3s^6-Rs^8)+r(-24R^2s^8+s^{10}) \right) / \left((r+R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2 \right)$$

$$|X_{55}X_{78}|^2:$$

$$\frac{R(-r^5-4r^4R+R^3s^2+r^3(-11R^2+s^2)+r^2(-12R^3+Rs^2)+r(-16R^4+R^2s^2))}{(r^2-R^2)^2}$$

$$\begin{aligned}
|X_{55}X_{79}|^2 &: \frac{r^2 (4 r^4 + 38 r^3 R + 81 R^4 - 14 R^2 s^2 + 6 r^2 (21 R^2 - 2 s^2) + 2 r (85 R^3 - 13 R s^2))}{(2 r^2 + 5 r R + 3 R^2)^2} \\
|X_{55}X_{80}|^2 &: \frac{r^2 (6 r^3 + 26 r^2 R + 28 r R^2 - R^3 - 2 r s^2 - 2 R s^2)}{(2 r - R) (r + R)^2} \\
|X_{55}X_{81}|^2 &: - \frac{r^2 R (r^5 + 10 r^4 R - R s^2 (R^2 + 2 s^2) + r^3 (33 R^2 + 2 s^2) + 4 r^2 (10 R^3 + 3 R s^2) + r (16 R^4 + 9 R^2 s^2 + s^4))}{(r + R)^2 (r^2 + r R - s^2)^2} \\
|X_{55}X_{83}|^2 &: \\
& \left(4 r^{12} + 93 r^{11} R + R^2 s^{10} - r R s^8 (40 R^2 + 3 s^2) + 4 r^{10} (221 R^2 + 3 s^2) + r^9 (4320 R^3 + 97 R s^2) - \right. \\
& \quad 4 r^2 s^6 (-148 R^4 - 28 R^2 s^2 + s^4) + r^8 (10880 R^4 - 215 R^2 s^2 + 8 s^4) + \\
& \quad 2 r^7 (5248 R^5 - 1948 R^3 s^2 - 7 R s^4) - 4 r^6 (1792 R^6 + 2636 R^4 s^2 - 121 R^2 s^4 + 2 s^6) + \\
& \quad r^5 (-16384 R^7 - 2816 R^5 s^2 + 3784 R^3 s^4 + 50 R s^6) + \\
& \quad \left. 2 r^4 (6656 R^6 s^2 + 2000 R^4 s^4 - 305 R^2 s^6 - 6 s^8) + r^3 (-4096 R^5 s^4 - 1096 R^3 s^6 + 65 R s^8) \right) / \\
& \left((r + R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2)) \right)^2 \\
|X_{55}X_{85}|^2 &: \frac{1}{(r + R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2} \\
& R (r^7 + 20 r^6 R + R s^6 + r^5 (160 R^2 + 11 s^2) + 5 r^4 (128 R^3 + 21 R s^2) + \\
& \quad r^3 (1280 R^4 + 312 R^2 s^2 - 21 s^4) + 2 r^2 (512 R^5 + 136 R^3 s^2 - 29 R s^4) + r (-40 R^2 s^4 + s^6)) \\
|X_{55}X_{86}|^2 &: \frac{r^7 R + R^2 s^6 + 4 r^6 (3 R^2 - s^2) + r^5 (48 R^3 - R s^2) + r^4 (64 R^4 + 73 R^2 s^2 - 8 s^4) + 5 r^3 (32 R^3 s^2 - R s^4) + r^2 (62 R^2 s^4 - 4 s^6) - r (16 R^3 s^4 + 3 R s^6)}{(r + R)^2 (r^2 + 4 r R + 5 s^2)^2} \\
|X_{55}X_{88}|^2 &: - \frac{r^2 R (27 r^5 + 144 r^4 R - 9 R^3 s^2 - 4 R s^4 - 3 r^3 (45 R^2 + 2 s^2) - 24 r^2 (45 R^3 - R s^2) + r (144 R^4 + 129 R^2 s^2 - s^4))}{(r + R)^2 (3 r^2 - 15 r R + s^2)^2} \\
|X_{55}X_{89}|^2 &: - \frac{r^2 R (54 r^5 + 468 r^4 R - 9 R^3 s^2 - 10 R s^4 + 3 r^3 (387 R^2 + 8 s^2) + 6 r^2 (108 R^3 + 17 R s^2) + r (144 R^4 - 39 R^2 s^2 + 2 s^4))}{(r + R)^2 (-6 r^2 + 3 r R + 2 s^2)^2} \\
|X_{55}X_{99}|^2 &: \frac{R (r^7 + 12 r^6 R + 3 r^3 s^4 - 10 r^2 R s^4 + R s^6 + 3 r^5 (16 R^2 + s^2) + r^4 (64 R^3 - 15 R s^2) + r (-16 R^2 s^4 + s^6))}{(r + R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))} \\
|X_{55}X_{141}|^2 &: \frac{1}{4 (r + R)^2 (r^2 + 4 r R - s^2)^2} \\
& (r^8 + 16 r^7 R - 20 r R^3 s^4 + R^2 s^6 + r^6 (95 R^2 - 7 s^2) + 4 r^5 (61 R^3 - 14 R s^2) + \\
& \quad r^4 (208 R^4 - 149 R^2 s^2 + 7 s^4) - 8 r^3 (8 R^5 + 13 R^3 s^2 - 3 R s^4) + r^2 (68 R^4 s^2 + 9 R^2 s^4 - s^6)) \\
|X_{55}X_{142}|^2 &: \frac{r^6 + 16 r^5 R + 4 R^4 s^2 + r^4 (95 R^2 - 3 s^2) - 8 r R^3 (8 R^2 + s^2) + 4 r^3 (61 R^3 - 4 R s^2) + r^2 (208 R^4 - 25 R^2 s^2)}{4 (r^2 + 5 r R + 4 R^2)^2} \\
|X_{55}X_{145}|^2 &: \frac{6 r^4 - 21 r^3 R + R^2 s^2 + r^2 (-40 R^2 + 2 s^2) + r (-16 R^3 + 3 R s^2)}{(r + R)^2} \\
|X_{55}X_{190}|^2 &: \frac{1}{(r + R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
& (-4 r^8 - 59 r^7 R + R^2 s^6 - 4 r^6 (85 R^2 + 2 s^2) + r^5 (-976 R^3 + 59 R s^2) + \\
& \quad r^4 (-1472 R^4 + 201 R^2 s^2 - 4 s^4) + r^3 (-1024 R^5 + 400 R^3 s^2 - 9 R s^4) + \\
& \quad r^2 (320 R^4 s^2 - 34 R^2 s^4) + r (-32 R^3 s^4 + R s^6)) \\
|X_{55}X_{192}|^2 &: \frac{1}{(r + R)^2 (r^2 + 4 r R + s^2)^2} \\
& (-2 r^8 - 29 r^7 R + R^2 s^6 + 3 r R s^4 (-8 R^2 + s^2) - 2 r^6 (80 R^2 + s^2) + r^5 (-416 R^3 + 57 R s^2) + r^4 \\
& \quad (-512 R^4 + 225 R^2 s^2 + 2 s^4) + r^3 (-256 R^5 + 328 R^3 s^2 - 39 R s^4) + 2 r^2 (72 R^4 s^2 - 31 R^2 s^4 + s^6))
\end{aligned}$$

$$|X_{55}X_{194}|^2: \frac{(-2r^{12} - 45r^{11}R + R^2s^{10} - 2r^{10}(212R^2 + 3s^2) - r^9(2160R^3 + 49Rs^2) + 2r^2s^6(-16R^4 - 26R^2s^2 + s^4) - 2r^7R(5504R^4 + 208R^2s^2 + s^4) - r^8(6400R^4 + 143R^2s^2 + 4s^4) - 4r^6(2560R^6 + 328R^4s^2 - 105R^2s^4 - s^6) - 2r^5(2048R^7 + 640R^5s^2 - 640R^3s^4 + 17Rs^6) + 2r^4(128R^6s^2 + 864R^4s^4 + 43R^2s^6 + 3s^8) + r^3(512R^5s^4 + 32R^3s^6 - 33Rs^8) + r(-16R^3s^8 + 3Rs^{10}))}{((r+R)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2)}$$

$$|X_{55}X_{200}|^2: \frac{R(-r^4R + 4R^3s^2 + 2r^3(-6R^2 + s^2) + r^2(-48R^3 + 2Rs^2) + r(-64R^4 + 4R^2s^2))}{(r^2 - rR - 2R^2)^2}$$

$$|X_{55}X_{210}|^2: \frac{-r^4R + 4R^3s^2 + 2r^3(-6R^2 + s^2) + r^2(-48R^3 + 2Rs^2) + r(-64R^4 + 4R^2s^2)}{9R(r+R)^2}$$

$$|X_{55}X_{213}|^2: \frac{-((r^2R^2(r^8 + 20r^7R - 4R^2s^6 - 3s^8 + 8r^6(20R^2 + s^2) + r^5(640R^3 + 76Rs^2) + 2r^4(640R^4 + 126R^2s^2 + 5s^4) + 4r^3(256R^5 + 104R^3s^2 + 27Rs^4) + 8r^2(56R^4s^2 + 17R^2s^4) + 4r(8R^3s^4 + 5Rs^6)))}{((r+R)^2(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2)}$$

$$|X_{55}X_{238}|^2: \frac{r^2R(2r^5 + 29r^4R + 16R^3s^2 + 5Rs^4 + 4r^3(30R^2 + s^2) + 10r^2(8R^3 - 3Rs^2) + r(-256R^4 - 72R^2s^2 + 2s^4))}{(r+R)^2(-3r^2 - 12rR + s^2)^2}$$

$$|X_{55}X_{239}|^2: \frac{1}{(r+R)^2(-3r^2 - 12rR + s^2)^2} \frac{(2r^8 + 31r^7R + R^2s^6 + 2r^6(88R^2 + 3s^2) + r^5(416R^3 + 41Rs^2) + r^4(256R^4 + 33R^2s^2 + 6s^4) - r^3(256R^5 + 168R^3s^2 + 19Rs^4) - 2r^2(56R^4s^2 + 15R^2s^4 - s^6) + r(-8R^3s^4 + 3Rs^6))}{(r+R)^2(-3r^2 - 12rR + s^2)^2}$$

$$|X_{55}X_{244}|^2: \frac{-r^2R(24r^5 + 145r^4R - 4R^3s^2 - 3Rs^4 + 4r^3(3R^2 - 2s^2) - 2r^2R(360R^2 + s^2) + r(64R^4 + 92R^2s^2))}{(r+R)^2(r^2 - 14rR + s^2)^2}$$

$$|X_{55}X_{304}|^2: \frac{(R(r^{11} + 20r^{10}R + Rs^{10} + r^9(160R^2 + 17s^2) + r^8(640R^3 + 201Rs^2) + 2r^7(640R^4 + 444R^2s^2 - 33s^4) + 16r^6(64R^5 + 113R^3s^2 - 26Rs^4) + 2r^5(768R^4s^2 - 452R^2s^4 + 23s^6) + r^4(-672R^3s^4 + 86Rs^6) + r^3(-256R^4s^4 + 136R^2s^6 + s^8) + 4r^2(36R^3s^6 - 5Rs^8) + r(-24R^2s^8 + s^{10})))}{((r+R)^2(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2)}$$

$$|X_{55}X_{306}|^2: \frac{1}{(r+R)^2(-3r^2 - 6rR + s^2)^2} \frac{(2r^8 + 23r^7R + R^2s^6 + r^6(92R^2 - 8s^2) + 7r^5(20R^3 - 7Rs^2) + r^4(32R^4 - 75R^2s^2 + 6s^4) + r^3(-64R^5 + 16R^3s^2 + 9Rs^4) + 2r^2(34R^4s^2 - 7R^2s^4) + r(-20R^3s^4 + Rs^6))}{(r+R)^2(-3r^2 - 6rR + s^2)^2}$$

$$|X_{55}X_{312}|^2: \frac{R(-7r^7 - 52r^6R + Rs^6 + r^5(-96R^2 + 27s^2) + r^4(-64R^3 + 9Rs^2) + r^3(-256R^4 + 72R^2s^2 + 3s^4) + 18r^2(8R^3s^2 - Rs^4) + r(-24R^2s^4 + s^6))}{(r+R)^2(r^2 - 8rR + s^2)^2}$$

$$|X_{55}X_{319}|^2: \frac{r^7R - 90r^2R^2s^4 + 9R^2s^6 + 4r^6(3R^2 - 4s^2) + 9rRs^4(-16R^2 + s^2) + r^5(48R^3 - 125Rs^2) + r^4(64R^4 - 343R^2s^2 + 48s^4) + r^3(-288R^3s^2 + 75Rs^4)}{(r+R)^2(r^2 + 4rR - 3s^2)^2}$$

$$|X_{55}X_{320}|^2: \frac{9r^7R + 6r^2R^2s^4 + R^2s^6 + 12r^6(9R^2 - 4s^2) + 3r^5(144R^3 - 71Rs^2) + r^4(576R^4 - 399R^2s^2 + 16s^4) + r^3(-288R^3s^2 + 35Rs^4) + r(-16R^3s^4 + Rs^6)}{(r+R)^2(-3r^2 - 12rR + s^2)^2}$$

$$|X_{55}X_{321}|^2: \frac{R(-3r^7 - 28r^6R + Rs^6 + r^5(-84R^2 + 27s^2) + r^4(-96R^3 + 65Rs^2) - r^3(64R^4 - 88R^2s^2 + s^4) + 2r^2(34R^3s^2 - 9Rs^4) + r(-20R^2s^4 + s^6))}{(r+R)^2(r^2 - 2rR + s^2)^2}$$

$$|X_{55}X_{345}|^2: \frac{(r^2 + 4rR - s^2)^2(4r^4 + 5r^3R - 12r^2R^2 - 16rR^3 + rRs^2 + R^2s^2)}{(r+R)^2(-5r^2 - 8rR + s^2)^2}$$

$$\begin{aligned}
& |X_{55}X_{346}|^2: \frac{R^2 s^6 - 2 r^6 (2 R^2 + s^2) - 6 r^5 R (8 R^2 + s^2) + 2 r^4 (-96 R^4 + s^4) + r^3 (-256 R^5 + 112 R^3 s^2 + 3 R s^4) + 4 r^2 (36 R^4 s^2 - 5 R^2 s^4) + r (-24 R^3 s^4 + R s^6)}{(r+R)^2 (-2 r^2 - 8 r R + s^2)^2} \\
& |X_{55}X_{350}|^2: \frac{(R (r^{11} + 20 r^{10} R + R s^{10} + r^9 (160 R^2 + 13 s^2) + r^8 (640 R^3 + 97 R s^2) + 2 r^7 (640 R^4 + 12 R^2 s^2 + 17 s^4) + 4 r^6 (256 R^5 - 284 R^3 s^2 + 47 R s^4) + r^5 (-2048 R^4 s^2 + 504 R^2 s^4 + 34 s^6) + 14 r^4 (80 R^3 s^4 - 11 R s^6) + r^3 (-256 R^4 s^4 - 152 R^2 s^6 + 13 s^8) + 8 r^2 (18 R^3 s^6 - R s^8) + r (-24 R^2 s^8 + s^{10}))}{((r+R)^2 (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2)))^2} \\
& |X_{56}X_{57}|^2: \frac{r^4 R (-2 r + R)}{(r^2 - 3 r R + 2 R^2)^2} \\
& |X_{56}X_{58}|^2: \frac{r^2 R^2 (7 r^4 + 20 r^3 R + 4 R^2 s^2 - s^4 - 2 r^2 (6 R^2 + 5 s^2) + r (-64 R^3 + 20 R s^2))}{(r-R)^2 (-3 r^2 - 4 r R + s^2)^2} \\
& |X_{56}X_{63}|^2: \frac{R (-r^5 + R^3 s^2 + r^3 (9 R^2 + s^2) + r^2 (4 R^3 - 3 R s^2) + r (-16 R^4 + R^2 s^2))}{(r^2 - R^2)^2} \\
& |X_{56}X_{65}|^2: \frac{r^4 (-2 r + R)}{(r-R)^2 R} \\
& |X_{56}X_{69}|^2: \frac{-r^7 R + 22 r^2 R^2 s^4 + R^2 s^6 - 8 r^6 (R^2 + s^2) - r R s^4 (16 R^2 + s^2) + r^4 s^2 (R^2 + 8 s^2) - r^5 (16 R^3 + 15 R s^2) + r^3 (32 R^3 s^2 - 15 R s^4)}{(r-R)^2 (r^2 + 4 r R - s^2)^2} \\
& |X_{56}X_{72}|^2: \frac{-r^5 - 3 r^4 R - 16 r R^4 + R^3 s^2 + r^3 (6 R^2 + s^2) + r^2 (13 R^3 - 2 R s^2)}{(r-R)^2 R} \\
& |X_{56}X_{75}|^2: \frac{-R (r^7 + 8 r^6 R - r^4 R s^2 - 26 r^2 R^2 s^4 - R s^6 + r^5 (16 R^2 - 21 s^2) + r^3 (32 R^2 s^2 + 11 s^4) + r (16 R^2 s^4 + s^6))}{(r-R)^2 (r^2 + 4 r R + s^2)^2} \\
& |X_{56}X_{76}|^2: \frac{-((R (r^{11} + 16 r^{10} R - R s^{10} + r s^8 (24 R^2 + s^2) + r^9 (96 R^2 + 5 s^2) + r^8 (256 R^3 + 55 R s^2) + 2 r^7 (128 R^4 + 84 R^2 s^2 + 5 s^4) - 4 r^6 (4 R^3 s^2 + 55 R s^4) + r^5 (-512 R^4 s^2 + 200 R^2 s^4 + 10 s^6) - 10 r^4 (16 R^3 s^4 + 3 R s^6) + r^3 (256 R^4 s^4 + 152 R^2 s^6 + 5 s^8) - 4 r^2 (36 R^3 s^6 + 7 R s^8)))}{((r-R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2)))^2} \\
& |X_{56}X_{78}|^2: \frac{R (-r^3 - 8 r^2 R + R s^2 + r (-16 R^2 + s^2))}{(r-R)^2} \\
& |X_{56}X_{79}|^2: \frac{r^2 (4 r^4 + 14 r^3 R + 9 R^4 - 2 R^2 s^2 - 6 r^2 (R^2 + 2 s^2) + r (-46 R^3 + 14 R s^2))}{(2 r^2 + r R - 3 R^2)^2} \\
& |X_{56}X_{80}|^2: \frac{r^2 (6 r^3 - 2 r^2 R + 4 r R^2 - 9 R^3 - 2 r s^2 + 2 R s^2)}{(r-R)^2 (2 r - R)} \\
& |X_{56}X_{81}|^2: \frac{-r^2 R (r^5 - R^3 s^2 + r^3 (-9 R^2 + 2 s^2) - 4 r^2 (R^3 - R s^2) + r (16 R^4 - 9 R^2 s^2 + s^4))}{(r^3 + R s^2 - r (R^2 + s^2))^2} \\
& |X_{56}X_{83}|^2: \frac{(4 r^{12} + 67 r^{11} R + R^2 s^{10} + 4 r^{10} (116 R^2 + 3 s^2) + r^9 (1760 R^3 + 31 R s^2) + r^8 (3840 R^4 - 567 R^2 s^2 + 8 s^4) + r^7 (2816 R^5 - 3032 R^3 s^2 - 50 R s^4) - 4 r^6 (2048 R^6 + 908 R^4 s^2 - 151 R^2 s^4 + 2 s^6) + r^5 (-16384 R^7 + 5376 R^5 s^2 + 2184 R^3 s^4 + 78 R s^6) + 2 r^4 (6656 R^6 s^2 - 1008 R^4 s^4 - 369 R^2 s^6 - 6 s^8) + r^3 (-4096 R^5 s^4 + 536 R^3 s^6 + 95 R s^8) + r^2 (592 R^4 s^6 - 68 R^2 s^8 - 4 s^{10}) + r (-40 R^3 s^8 + 3 R s^{10}))}{((r-R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2)))^2} \\
& |X_{56}X_{85}|^2: \frac{-R (r^7 + 16 r^6 R - R s^6 + r^5 (96 R^2 - 5 s^2) + r^4 (256 R^3 - 33 R s^2) + r^3 (256 R^4 - 24 R^2 s^2 + 27 s^4) + 2 r^2 (56 R^3 s^2 - 17 R s^4) + r (8 R^2 s^4 + s^6))}{(r-R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2} \\
& |X_{56}X_{86}|^2: \frac{-(r^2 + s^2)^2 (r^3 R - R^2 s^2 + 4 r^2 (2 R^2 + s^2) + r (16 R^3 - 3 R s^2))}{(r-R)^2 (r^2 + 4 r R + 5 s^2)^2} \\
& |X_{56}X_{88}|^2: \frac{-r^2 R (27 r^5 - 54 r^4 R - 9 R^3 s^2 + 2 R s^4 + r^3 (63 R^2 - 6 s^2) + r^2 (-36 R^3 + 24 R s^2) + r (144 R^4 - 33 R^2 s^2 - s^4))}{(r-R)^2 (3 r^2 - 15 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{56}X_{89}|^2 &= -\frac{r^2 R (54 r^5 - 9 R^3 s^2 + 2 R s^4 - 3 r^3 (51 R^2 - 8 s^2) - 6 r^2 (6 R^3 - 5 R s^2) + r (144 R^4 - 57 R^2 s^2 + 2 s^4))}{(r-R)^2 (-6 r^2 + 3 r R + 2 s^2)^2} \\
|X_{56}X_{99}|^2 &= -\frac{R (r^7 + 8 r^6 R + 7 r^4 R s^2 - 18 r^2 R s^4 - R s^6 + r^5 (16 R^2 + 3 s^2) + r^3 (-32 R^2 s^2 + 3 s^4) + r (16 R^2 s^4 + s^6))}{(r-R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))} \\
|X_{56}X_{141}|^2 &= \frac{r^8 + 8 r^7 R - 20 r R^3 s^4 + R^2 s^6 + r^6 (15 R^2 - 7 s^2) + 8 r^3 R^3 (-8 R^2 + s^2) - 12 r^5 (R^3 + 2 R s^2) + r^4 (-48 R^4 - 5 R^2 s^2 + 7 s^4) + r^2 (68 R^4 s^2 + 9 R^2 s^4 - s^6)}{4 (r-R)^2 (r^2 + 4 r R - s^2)^2} \\
|X_{56}X_{142}|^2 &= \frac{r^6 + 8 r^5 R + 4 R^4 s^2 + 3 r^4 (5 R^2 - s^2) + 8 r R^3 (-8 R^2 + s^2) - r^2 R^2 (48 R^2 + s^2) - 4 r^3 (3 R^3 + 2 R s^2)}{4 (r^2 + 3 r R - 4 R^2)^2} \\
|X_{56}X_{145}|^2 &= \frac{(2 r - R) (3 r^3 - 20 r^2 R - R s^2 + r (16 R^2 + s^2))}{(r-R)^2} \\
|X_{56}X_{190}|^2 &= \frac{1}{(r-R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
&\quad (-4 r^8 - 37 r^7 R + R^2 s^6 - 8 r^6 (5 R^2 + s^2) - r R s^4 (32 R^2 + s^2) + r^5 (368 R^3 + 101 R s^2) + \\
&\quad r^4 (512 R^4 - 207 R^2 s^2 - 4 s^4) + r^3 (-1024 R^5 - 176 R^3 s^2 + 9 R s^4) + r^2 (320 R^4 s^2 + 26 R^2 s^4)) \\
|X_{56}X_{192}|^2 &= \frac{1}{(r-R)^2 (r^2 + 4 r R + s^2)^2} \\
&\quad (-2 r^8 - 19 r^7 R + R^2 s^6 - 3 r R s^4 (8 R^2 + s^2) - 2 r^6 (18 R^2 + s^2) + r^5 (96 R^3 + 71 R s^2) + \\
&\quad r^4 (192 R^4 - 39 R^2 s^2 + 2 s^4) - r^3 (256 R^5 + 184 R^3 s^2 + 41 R s^4) + 2 r^2 (72 R^4 s^2 + 31 R^2 s^4 + s^6)) \\
|X_{56}X_{194}|^2 &= \frac{(-2 r^{12} - 35 r^{11} R + R^2 s^{10} - r R s^8 (16 R^2 + 3 s^2) - 2 r^{10} (110 R^2 + 3 s^2) - r^9 (496 R^3 + 15 R s^2) + \\
&\quad r^8 (384 R^4 + 65 R^2 s^2 - 4 s^4) + 2 r^2 s^6 (-16 R^4 + 28 R^2 s^2 + s^4) + \\
&\quad r^7 (2816 R^5 - 224 R^3 s^2 + 34 R s^4) + 4 r^6 (256 R^6 - 264 R^4 s^2 + 83 R^2 s^4 + s^6) - \\
&\quad 2 r^5 (2048 R^7 - 640 R^5 s^2 + 128 R^3 s^4 + 15 R s^6) + \\
&\quad 2 r^4 (128 R^6 s^2 - 352 R^4 s^4 + 51 R^2 s^6 + 3 s^8) + r^3 (512 R^5 s^4 - 32 R^3 s^6 - 47 R s^8))}{((r-R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2)} \\
|X_{56}X_{200}|^2 &= -\frac{R (5 r^4 R - 4 R^3 s^2 + r^3 (28 R^2 - 2 s^2) + 4 r R^2 (16 R^2 + s^2) + r^2 (-96 R^3 + 2 R s^2))}{(r^2 - 3 r R + 2 R^2)^2} \\
|X_{56}X_{210}|^2 &= \frac{-r^4 R - 64 r R^4 + 4 R^3 s^2 + 2 r^3 (2 R^2 + s^2) + r^2 (52 R^3 - 6 R s^2)}{9 (r-R)^2 R} \\
|X_{56}X_{213}|^2 &= \frac{(r^2 R^2 (3 r^8 + 44 r^7 R + 224 r^6 R^2 + 4 R^2 s^6 - s^8 + 4 r^5 (96 R^3 + 5 R s^2) - 2 r^4 (128 R^4 - 66 R^2 s^2 + 5 s^4) - \\
&\quad 4 r^3 (256 R^5 - 24 R^3 s^2 + 11 R s^4) - 8 r^2 (56 R^4 s^2 - 15 R^2 s^4 + s^6) - 4 r (8 R^3 s^4 - 3 R s^6)))}{((r-R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2)} \\
|X_{56}X_{238}|^2 &= \frac{r^2 R (2 r^5 + 21 r^4 R + 16 R^3 s^2 - 3 R s^4 + 4 r^3 (14 R^2 + s^2) - 2 r^2 (24 R^3 + 23 R s^2) + r (-256 R^4 + 56 R^2 s^2 + 2 s^4))}{(r-R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
|X_{56}X_{239}|^2 &= \frac{1}{(r-R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
&\quad (2 r^8 + 17 r^7 R + R^2 s^6 + r^6 (44 R^2 + 6 s^2) + r^5 (32 R^3 + 7 R s^2) + 2 r^2 s^2 (-56 R^4 + 23 R^2 s^2 + s^4) + \\
&\quad r^4 (-64 R^4 - 23 R^2 s^2 + 6 s^4) + r^3 (-256 R^5 + 152 R^3 s^2 - 45 R s^4) - r (8 R^3 s^4 + 3 R s^6)) \\
|X_{56}X_{244}|^2 &= -\frac{r^2 R (24 r^5 + 21 r^4 R - 4 R^3 s^2 + R s^4 + r^3 (7 R^2 - 2 s^2) + r^2 (32 R^3 + 6 R s^2) + 4 r (16 R^4 - 5 R^2 s^2))}{(r-R)^2 (r^2 - 14 r R + s^2)^2} \\
|X_{56}X_{304}|^2 &= \frac{-(R (r^{11} + 16 r^{10} R - R s^{10} + 3 r^9 (32 R^2 - 5 s^2) - 24 r^2 R s^6 (6 R^2 + s^2) + r s^8 (24 R^2 + s^2) + \\
&\quad r^8 (256 R^3 - 121 R s^2) + r^7 (256 R^4 - 216 R^2 s^2 + 62 s^4) + 24 r^6 (10 R^3 s^2 + 7 R s^4) + \\
&\quad r^5 (512 R^4 s^2 - 248 R^2 s^4 - 50 s^6) + r^4 (-224 R^3 s^4 + 90 R s^6) + \\
&\quad r^3 (256 R^4 s^4 + 88 R^2 s^6 + s^8)))}{((r-R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2)}
\end{aligned}$$

$$\begin{aligned}
|X_{56}X_{306}|^2 &: \frac{1}{(r-R)^2 (-3r^2-6rR+s^2)^2} \\
&\quad (2r^8 + 9r^7R + R^2s^6 + 8r^6(2R^2-s^2) - rRs^4(20R^2+s^2) + r^5(4R^3-15Rs^2) + \\
&\quad r^4(-48R^4-19R^2s^2+6s^4) - r^3(64R^5+8R^3s^2+9Rs^4) + r^2(68R^4s^2+22R^2s^4)) \\
|X_{56}X_{312}|^2 &: \frac{-R(9r^7+8r^6R-Rs^6-r^5(32R^2+21s^2))+r^4(-192R^3+31Rs^2)+r^3(256R^4+120R^2s^2+3s^4)-2r^2(72R^3s^2+13Rs^4)+r(24R^2s^4+s^6)}{(r-R)^2 (r^2-8rR+s^2)^2} \\
|X_{56}X_{319}|^2 &: \frac{-r^7R+210r^2R^2s^4+9R^2s^6-9rRs^4(16R^2+s^2)-8r^6(R^2+2s^2)+r^4s^2(R^2+48s^2)-r^5(16R^3+51Rs^2)+3r^3(32R^3s^2-41Rs^4)}{(r-R)^2 (r^2+4rR-3s^2)^2} \\
|X_{56}X_{320}|^2 &: \frac{-9r^7R+18r^2R^2s^4+R^2s^6-rRs^4(16R^2+s^2)-24r^6(3R^2+2s^2)-9r^5(16R^3+3Rs^2)+r^4(9R^2s^2+16s^4)+r^3(96R^3s^2-19Rs^4)}{(r-R)^2 (-3r^2-12rR+s^2)^2} \\
|X_{56}X_{321}|^2 &: \frac{-R(5r^7+16r^6R-Rs^6-r^5(4R^2+21s^2))+r^4(-80R^3+7Rs^2)+r^3(64R^4+80R^2s^2+7s^4)-2r^2(34R^3s^2+13Rs^4)+r(20R^2s^4+s^6)}{(r-R)^2 (r^2-2rR+s^2)^2} \\
|X_{56}X_{345}|^2 &: \frac{1}{(r-R)^2 (-5r^2-8rR+s^2)^2} \\
&\quad (4r^8 + 11r^7R + R^2s^6 + 8r^6(5R^2-s^2) - rRs^4(24R^2+s^2) + r^5(96R^3-7Rs^2) + \\
&\quad r^4(-64R^4-63R^2s^2+4s^4) - r^3(256R^5+40R^3s^2+3Rs^4) + 2r^2(72R^4s^2+11R^2s^4)) \\
|X_{56}X_{346}|^2 &: \frac{R^2s^6+2r^6(6R^2-s^2)+24r^2R^2s^2(6R^2+s^2)-rRs^4(24R^2+s^2)+r^5(80R^3+6Rs^2)+2r^4(32R^4-24R^2s^2+s^4)-r^3(256R^5+80R^3s^2+3Rs^4)}{(r-R)^2 (-2r^2-8rR+s^2)^2} \\
|X_{56}X_{350}|^2 &: - \left((R(r^{11} + 16r^{10}R - Rs^{10} + r^9(96R^2-3s^2) + r^8(24R^2+s^2) + r^8(256R^3-17Rs^2) + 2r^7(128R^4-12R^2s^2-7s^4) - 4r^6(36R^3s^2+41Rs^4) - 2r^5(256R^4s^2-68R^2s^4+7s^6) + 2r^4(16R^3s^4+53Rs^6) + r^3(256R^4s^4+24R^2s^6-3s^8) - 4r^2(36R^3s^6+5Rs^8))) / \right. \\
&\quad \left. ((r-R)^2 (r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2) \right) \\
|X_{57}X_{58}|^2 &: \frac{-4r^2R(3r^5+18r^4R-4R^3s^2+Rs^4)+r^3(48R^2-4s^2)+r^2(76R^3-9Rs^2)+r(64R^4-24R^2s^2+s^4)}{(r-2R)^2 (-3r^2-4rR+s^2)^2} \\
|X_{57}X_{63}|^2 &: \frac{-R^2(r^4+12r^3R-4R^2s^2+r^2(48R^2+5s^2))+8r(8R^3-Rs^2)}{(r^2-rR-2R^2)^2} \\
|X_{57}X_{65}|^2 &: \frac{r^4(-2r+R)}{(r-2R)^2 R} \\
|X_{57}X_{69}|^2 &: \frac{-r^8+12r^7R+64r^5R^3+64rR^3s^4-4R^2s^6+r^6(48R^2+7s^2)-9r^4(4R^2s^2+s^4)-4r^3(32R^3s^2-5Rs^4)+r^2(-24R^2s^4+s^6)}{(r-2R)^2 (r^2+4rR-s^2)^2} \\
|X_{57}X_{72}|^2 &: \frac{-r^5+2r^4R+4R^3s^2+r^3(16R^2+s^2)-r^2(12R^3+5Rs^2)+r(-64R^4+4R^2s^2)}{(r-2R)^2 R} \\
|X_{57}X_{75}|^2 &: \frac{-r^8+12r^7R+64rR^3s^4-4R^2s^6+r^2s^4(-40R^2+s^2)-16r^5R(-4R^2+s^2)+3r^6(16R^2+s^2)+4r^3Rs^2(32R^2+s^2)+r^4(28R^2s^2+3s^4)}{(r-2R)^2 (r^2+4rR+s^2)^2} \\
|X_{57}X_{76}|^2 &: - \left((r^{12} + 20r^{11}R + 96rR^3s^8 - 4R^2s^{10} + 40r^9R(16R^2+s^2) + 5r^{10}(32R^2+s^2) + 32r^7(32R^5-5R^3s^2) + r^2s^6(-576R^4-16R^2s^2+s^4) + 2r^8(640R^4+38R^2s^2+5s^4) - 2r^6(544R^4s^2+104R^2s^4-5s^6) - 8r^5(256R^5s^2-52R^3s^4+5Rs^6) + r^4(384R^4s^4+120R^2s^6+5s^8) + 4r^3(256R^5s^4+8R^3s^6-5Rs^8)) / \right. \\
&\quad \left. ((r-2R)^2 (r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2) \right)
\end{aligned}$$

$$\begin{aligned}
|X_{57}X_{78}|^2 &: \frac{R(-6r^5-9r^4R-64rR^4+4R^3s^2+2r^3(18R^2+s^2)+r^2(32R^3-5Rs^2))}{(r^2-3rR+2R^2)^2} \\
|X_{57}X_{79}|^2 &: -\frac{4r^2(3r^3R-9R^4+2R^2s^2+r^2(19R^2+4s^2))+r(28R^3-9Rs^2)}{(-2r^2+rR+6R^2)^2} \\
|X_{57}X_{80}|^2 &: \frac{4r^2(r^3-r^2R-9R^3+2Rs^2-r(2R^2+s^2))}{(r-2R)^2(2r-R)} \\
|X_{57}X_{81}|^2 &: -\frac{r^2R(r^4R-4R^3s^2+2r^3(6R^2-s^2))+r^2(48R^3-11Rs^2)+r(64R^4-40R^2s^2+6s^4)}{(r-2R)^2(r^2+rR-s^2)^2} \\
|X_{57}X_{83}|^2 &: \\
& \quad (-r^{12}-36r^{11}R+4R^2s^{10}+16rRr^8s^8(-10R^2+s^2)+r^{10}(-544R^2+3s^2)+r^9(-4480R^3+88Rs^2)+ \\
& \quad r^2s^6(2368R^4-432R^2s^2-9s^4)+r^8(-21760R^4+1204R^2s^2+6s^4)- \\
& \quad 16r^7(3904R^5-574R^3s^2+15Rs^4)-2r^6(49152R^6-18848R^4s^2+696R^2s^4+5s^6)- \\
& \quad 8r^5(8192R^7-9344R^5s^2+876R^3s^4-35Rs^6)+r^4 \\
& \quad (53248R^6s^2-24448R^4s^4-248R^2s^6-21s^8)+r^3(-16384R^5s^4+4512R^3s^6+148Rs^8)) / \\
& \quad ((r-2R)^2(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2) \\
|X_{57}X_{85}|^2 &: -\frac{1}{(r-2R)^2(r^2+8rR+16R^2+s^2)^2} \\
& \quad (r^8+20r^7R+32rR^3s^4-4R^2s^6+16r^5R(40R^2+s^2)+r^6(160R^2+3s^2)+ \\
& \quad r^4(1280R^4+12R^2s^2+3s^4)+4r^3(256R^5+24R^3s^2+7Rs^4)+r^2(448R^4s^2-72R^2s^4+s^6)) \\
|X_{57}X_{86}|^2 &: \\
& \quad -\frac{1}{(r-2R)^2(r^2+4rR+5s^2)^2}(r^8+12r^7R-4R^2s^6-16rRs^4(-4R^2+s^2)+r^6(48R^2+11s^2)+ \\
& \quad 16r^5(4R^3+3Rs^2)+r^4(156R^2s^2+19s^4)+4r^3(32R^3s^2+13Rs^4)+r^2(88R^2s^4+9s^6)) \\
|X_{57}X_{88}|^2 &: -\frac{r^2R(9r^4R-36R^3s^2+8Rs^4+6r^3(18R^2-s^2))+r^2(432R^3-3Rs^2)+2r(288R^4-84R^2s^2+s^4)}{(r-2R)^2(3r^2-15rR+s^2)^2} \\
|X_{57}X_{89}|^2 &: -\frac{r^2R(9r^4R-36R^3s^2+8Rs^4+12r^3(9R^2-s^2))+r^2(432R^3-51Rs^2)+4r(144R^4-66R^2s^2+5s^4)}{(r-2R)^2(-6r^2+3rR+2s^2)^2} \\
|X_{57}X_{99}|^2 &: \\
& \quad \frac{-r^8-12r^7R-64rR^3s^4+4R^2s^6+32r^5R(-2R^2+s^2)-3r^6(16R^2+s^2)+r^4(100R^2s^2-3s^4)+4r^3(32R^3s^2+3Rs^4)+r^2(8R^2s^4-s^6)}{(r-2R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
|X_{57}X_{141}|^2 &: \frac{1}{4(r-2R)^2(r^2+4rR-s^2)^2} \\
& \quad (-r^8-16r^7R+4R^2s^6-5r^6(20R^2+s^2)-4r^5R(76R^2+s^2)+r^3(-256R^5+304R^3s^2)+ \\
& \quad r^4(-448R^4+96R^2s^2+9s^4)+r^2(272R^4s^2-44R^2s^4-3s^6)+r(-80R^3s^4+4Rs^6)) \\
|X_{57}X_{142}|^2 &: -\frac{(r+2R)^2(r^4+12r^3R-4R^2s^2+r^2(48R^2+5s^2))+8r(8R^3-Rs^2)}{4(r^2+2rR-8R^2)^2} \\
|X_{57}X_{145}|^2 &: \frac{7r^4-76r^3R+4R^2s^2-8rR(8R^2+s^2)+3r^2(48R^2+s^2)}{(r-2R)^2} \\
|X_{57}X_{190}|^2 &: \frac{1}{(r-2R)^2(-3r^2-12rR+s^2)^2}(-r^8+4r^7R-128rR^3s^4+ \\
& \quad 4R^2s^6+r^6(80R^2-3s^2)+r^5(-64R^3+80Rs^2)-r^4(2048R^4+540R^2s^2+3s^4)+ \\
& \quad r^3(-4096R^5+576R^3s^2+44Rs^4)+r^2(1280R^4s^2-24R^2s^4-s^6)) \\
|X_{57}X_{192}|^2 &: \frac{1}{(r-2R)^2(r^2+4rR+s^2)^2} \\
& \quad (-r^8-4r^7R+4R^2s^6+64r^5R(2R^2+s^2)-8rRs^4(12R^2+s^2)+ \\
& \quad r^6(32R^2+s^2)+r^4(-256R^4-268R^2s^2+5s^4)- \\
& \quad 4r^3(256R^5+40R^3s^2+17Rs^4)+r^2(576R^4s^2+152R^2s^4+3s^6))
\end{aligned}$$

$$\begin{aligned}
& |X_{57}X_{194}|^2: \\
& \left(-r^{12} - 12r^{11}R + 4R^2s^{10} - 8rRs^8(8R^2 + s^2) - r^{10}(16R^2 + s^2) + 8r^9(40R^3 + 3Rs^2) + \right. \\
& \quad 2r^8(640R^4 + 18R^2s^2 + 3s^4) - 8r^7(128R^5 + 96R^3s^2 - Rs^4) - \\
& \quad 2r^6(6144R^6 + 192R^4s^2 - 136R^2s^4 - 7s^6) - 16r^5(1024R^7 - 384R^5s^2 + 80R^3s^4 + 7Rs^6) + \\
& \quad r^4(1024R^6s^2 - 768R^4s^4 + 376R^2s^6 + 11s^8) + \\
& \quad \left. 4r^3(512R^5s^4 - 64R^3s^6 - 23Rs^8) + r^2(-128R^4s^6 + 160R^2s^8 + 3s^{10}) \right) / \\
& \left((r-2R)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
& |X_{57}X_{200}|^2: \quad -\frac{4R(r^3 + 8r^2R + 16rR^2 - r^2s^2 - Rs^2)}{(r-2R)^2} \\
& |X_{57}X_{210}|^2: \quad \frac{5r^4R + 16R^3s^2 + 16rR^2(-16R^2 + s^2) - 16r^2R(3R^2 + s^2) + 2r^3(12R^2 + s^2)}{9(r-2R)^2R} \\
& |X_{57}X_{213}|^2: \\
& - \left((4r^2R(r^8R - 4R^3s^6 + Rs^8 + r^7(20R^2 - s^2) + 5r^6(32R^3 - Rs^2) + r^5(640R^4 + 16R^2s^2 - s^4) + \right. \\
& \quad 4r^4(320R^5 + 35R^3s^2 - 3Rs^4) + r^3(1024R^6 + 352R^4s^2 - 20R^2s^4 + s^6) + \\
& \quad \left. r^2(448R^5s^2 - 88R^3s^4 - 5Rs^6) + r(32R^4s^4 - 16R^2s^6 + s^8)) \right) / \\
& \left((r-2R)^2 (r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2 \right) \\
& |X_{57}X_{238}|^2: \quad -\frac{4r^2R(4r^5 + 43r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(42R^2 - s^2) + r^2(304R^3 - 6Rs^2) + 8r(32R^4 - 9R^2s^2))}{(r-2R)^2(-3r^2 - 12rR + s^2)^2} \\
& |X_{57}X_{239}|^2: \quad \frac{1}{(r-2R)^2(-3r^2 - 12rR + s^2)^2} \\
& \left(-r^8 - 20r^7R + 4R^2s^6 + r^6(-160R^2 + s^2) + 32r^5R(-20R^2 + s^2) - 8rRs^4(4R^2 + s^2) + 5r^4 \right. \\
& \quad \left. (-256R^4 + 36R^2s^2 + s^4) - 4r^3(256R^5 - 40R^3s^2 + 21Rs^4) + r^2(-448R^4s^2 + 152R^2s^4 + 3s^6) \right) \\
& |X_{57}X_{244}|^2: \quad -\frac{4r^2R(3r^5 + 28r^4R - 4R^3s^2 + Rs^4 + r^3(84R^2 - 4s^2) + 3r^2(32R^3 - 5Rs^2) + r(64R^4 - 24R^2s^2 + s^4))}{(r-2R)^2(r^2 - 14rR + s^2)^2} \\
& |X_{57}X_{304}|^2: \\
& - \left((r^{12} + 20r^{11}R + 96rR^3s^8 - 4R^2s^{10} - 8r^9R(-80R^2 + s^2) + r^{10}(160R^2 + s^2) - 2r^6 \right. \\
& \quad s^2(-992R^4 + s^4) + r^2s^6(-576R^4 + s^4) - 2r^8(-640R^4 + 26R^2s^2 + s^4) + \\
& \quad 32r^7(32R^5 + 11R^3s^2 + 2Rs^4) + 8r^5(256R^5s^2 - 76R^3s^4 - 7Rs^6) + \\
& \quad \left. r^4(128R^4s^4 + 280R^2s^6 + s^8) + 4r^3(256R^5s^4 - 56R^3s^6 - 5Rs^8) \right) / \\
& \left((r-2R)^2 (r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2 \right) \\
& |X_{57}X_{306}|^2: \\
& -\frac{1}{(r-2R)^2(-3r^2 - 6rR + s^2)^2} \left(r^8 + 16r^7R + 80rR^3s^4 - 4R^2s^6 + r^6(100R^2 + 7s^2) + 8r^5(38R^3 + 3Rs^2) + \right. \\
& \quad \left. r^4(448R^4 - 32R^2s^2 - 9s^4) + 8r^3R(32R^4 - 30R^2s^2 + s^4) + r^2(-272R^4s^2 - 8R^2s^4 + s^6) \right) \\
& |X_{57}X_{312}|^2: \quad \frac{1}{(r-2R)^2(r^2 - 8rR + s^2)^2} \\
& \left(-r^8 - 4r^7R - 96rR^3s^4 + 4R^2s^6 + r^6(32R^2 - 3s^2) + 16r^5(8R^3 + 3Rs^2) - \right. \\
& \quad \left. r^4(256R^4 + 204R^2s^2 + 3s^4) + r^3(-1024R^5 + 96R^3s^2 + 20Rs^4) + r^2(576R^4s^2 + 8R^2s^4 - s^6) \right) \\
& |X_{57}X_{319}|^2: \\
& -\frac{1}{(r-2R)^2(r^2 + 4rR - 3s^2)^2} \left(r^8 + 12r^7R + 576rR^3s^4 - 36R^2s^6 + 16r^5R(4R^2 + s^2) + r^6(48R^2 + 11s^2) - \right. \\
& \quad \left. 5r^4(20R^2s^2 + 9s^4) + r^3(-384R^3s^2 + 132Rs^4) + r^2(-264R^2s^4 + 9s^6) \right) \\
& |X_{57}X_{320}|^2: \\
& \frac{-9r^8 - 108r^7R - 64rR^3s^4 + 4R^2s^6 + 48r^5R(-12R^2 + s^2) - 3r^6(144R^2 + 17s^2) + 3r^4(44R^2s^2 + 7s^4) + 12r^3(32R^3s^2 - 3Rs^4) + r^2(8R^2s^4 - s^6)}{(r-2R)^2(-3r^2 - 12rR + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{57}X_{321}|^2 &: \frac{1}{(r-2R)^2 (r^2-2rR+s^2)^2} \\
& \left(-r^8 - 8r^7R - 80rR^3s^4 + 4R^2s^6 - r^6(4R^2+3s^2) + 16r^5(5R^3+2Rs^2) + \right. \\
& \quad \left. r^4(64R^4-96R^2s^2-3s^4) - 8r^3(32R^5+6R^3s^2-Rs^4) + r^2(272R^4s^2+24R^2s^4-s^6) \right) \\
|X_{57}X_{345}|^2 &: \frac{1}{(r-2R)^2 (-5r^2-8rR+s^2)^2} \\
& \left(-r^8 - 20r^7R - 96rR^3s^4 + 4R^2s^6 - r^6(160R^2+7s^2) - 16r^5(40R^3+3Rs^2) + \right. \\
& \quad \left. 4r^3R(-256R^4+104R^2s^2+s^4) + r^4(-1280R^4-12R^2s^2+9s^4) + r^2(576R^4s^2-8R^2s^4-s^6) \right) \\
|X_{57}X_{346}|^2 &: \frac{-16r^6R^2-96rR^3s^4+4R^2s^6-8r^5R(24R^2+s^2)+r^4(-768R^4-112R^2s^2+3s^4)-4r^3(256R^5-64R^3s^2-3Rs^4)+r^2(576R^4s^2-s^6)}{(r-2R)^2 (-2r^2-8rR+s^2)^2} \\
|X_{57}X_{350}|^2 &: - \left((r^{12} + 20r^{11}R + 96rR^3s^8 - 4R^2s^{10} + 5r^{10}(32R^2+s^2) + 8r^9(80R^3+3Rs^2) + r^2s^6 \right. \\
& \quad \left(-576R^4 + 16R^2s^2 + s^4 \right) + 2r^8(640R^4 - 58R^2s^2 + 5s^4) + 16r^7(64R^5 - 58R^3s^2 - 3Rs^4) - \\
& \quad 2r^6(1056R^4s^2 + 88R^2s^4 - 5s^6) - 8r^5(256R^5s^2 - 116R^3s^4 + 11Rs^6) + \\
& \quad \left. r^4(1152R^4s^4 + 376R^2s^6 + 5s^8) + 4r^3(256R^5s^4 - 120R^3s^6 - 9Rs^8) \right) / \\
& \quad \left((r-2R)^2 (r^4 + 8r^3R - 16rRs^2 + s^4 + 2r^2(8R^2+s^2))^2 \right) \\
|X_{58}X_{63}|^2 &: - \frac{R(r^2+2rR-s^2)^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(r+R)^2 (-3r^2-4rR+s^2)^2} \\
|X_{58}X_{65}|^2 &: - \frac{r^2(18r^5+81r^4R-4R^3s^2+R^4s^4+4r^3(37R^2-3s^2)+10r^2(14R^3-3Rs^2)+2r(32R^4-14R^2s^2+s^4))}{R(-3r^2-4rR+s^2)^2} \\
|X_{58}X_{69}|^2 &: \left(-3r^{10} - 52r^9R - 20rRs^8 + s^{10} - r^8(348R^2+71s^2) - 32r^7(35R^3+13Rs^2) - \right. \\
& \quad \left. 6r^6(288R^4+158R^2s^2-21s^4) - 8r^5(128R^5+128R^3s^2-49Rs^4) + \right. \\
& \quad \left. r^4(-448R^4s^2+412R^2s^4-58s^6) + 32r^3(7R^3s^4-Rs^6) + r^2(52R^2s^6+5s^8) \right) / \\
& \quad \left(3r^4 + 16r^3R - 8rRs^2 + s^4 + 4r^2(4R^2-s^2) \right)^2 \\
|X_{58}X_{72}|^2 &: \frac{-9r^7-66r^6R+r^5(56R^2-5s^2)+r^4(-172R^3+61Rs^2)+r^3(-64R^4+116R^2s^2-7s^4)+4r^2(17R^3s^2-4Rs^4)+r(-20R^2s^4+s^6)}{R(-3r^2-4rR+s^2)^2} \\
|X_{58}X_{75}|^2 &: \left(-3r^{10} - 52r^9R - 20rRs^8 + s^{10} - r^8(348R^2+11s^2) - \right. \\
& \quad \left. 16r^7(70R^3-9Rs^2) - 2r^6(864R^4-430R^2s^2+7s^4) - 8r^5(128R^5-168R^3s^2+27Rs^4) + \right. \\
& \quad \left. r^4(576R^4s^2-500R^2s^4-6s^6) + r^3(-352R^3s^4+80Rs^6) + r^2(84R^2s^6+s^8) \right) / \\
& \quad \left(3r^4 + 16r^3R - s^4 + 2r^2(8R^2+s^2) \right)^2 \\
|X_{58}X_{76}|^2 &: - \left((3r^{14} + 76r^{13}R + 28rRs^{12} - s^{14} - 3r^2s^{10}(76R^2+s^2) + 8r^3Rs^8(64R^2+3s^2) + r^{12} \right. \\
& \quad \left(812R^2+17s^2 \right) + 8r^{11}(592R^3+27Rs^2) + r^4s^6(1408R^4-228R^2s^2+3s^4) + \\
& \quad r^{10}(16256R^4+1100R^2s^2+39s^4) + 4r^9(8192R^5+736R^3s^2+33Rs^4) + \\
& \quad r^8(35840R^6+4224R^4s^2-2056R^2s^4+45s^6) + \\
& \quad \left. 16r^7(1024R^7+128R^5s^2-488R^3s^4-7Rs^6) + \right. \\
& \quad \left. r^6(-1024R^6s^2-10624R^4s^4+1752R^2s^6+25s^8) - 12r^5(512R^5s^4-224R^3s^6+9Rs^8) \right) / \\
& \quad \left(3r^6 + 28r^5R + 12rRs^4 - s^6 + 5r^4(16R^2+s^2) + 8r^3(8R^3-3Rs^2) + r^2(-48R^2s^2+s^4) \right)^2 \\
|X_{58}X_{78}|^2 &: - \frac{R(12r^7+87r^6R+20rR^2s^4-Rs^6+4r^5(51R^2-4s^2)+r^4(172R^3-23Rs^2)+4r^3(16R^4-24R^2s^2+s^4)+r^2(-68R^3s^2+Rs^4))}{(r-R)^2 (-3r^2-4rR+s^2)^2}
\end{aligned}$$

$$\begin{aligned}
& |X_{58}X_{79}|^2: \\
& \frac{4r^2(6r^6+44r^5R+9R^4s^2+6R^2s^4-2s^6+r^4(94R^2-38s^2))-4r^3(R^3+30Rs^2)+r^2(-195R^4-124R^2s^2+18s^4)-4r(36R^5+9R^3s^2-7Rs^4))}{(2r+3R)^2(-3r^2-4rR+s^2)^2} \\
& |X_{58}X_{80}|^2: \frac{4r^2(12r^5+52r^4R-R^3s^2+2r^3(43R^2-8s^2)+r^2(59R^3-28Rs^2)+2r(8R^4-9R^2s^2+2s^4))}{(2r-R)(-3r^2-4rR+s^2)^2} \\
& |X_{58}X_{81}|^2: -\frac{r^2R(r^2+2rR+s^2)^2(6r^3+19r^2R+16rR^2-2rs^2-Rs^2)}{(3r^4+7r^3R-5rRs^2+s^4+4r^2(R^2-s^2))^2} \\
& |X_{58}X_{83}|^2: \\
& (21r^{14}+436r^{13}R-28rRs^{12}+s^{14}+r^2s^{10}(228R^2+11s^2)-8r^3Rs^8(64R^2+27s^2)+ \\
& r^{12}(3764R^2+47s^2)+8r^{11}(2160R^3+13Rs^2)+3r^{10}(14720R^4-1156R^2s^2-5s^4)+ \\
& 4r^9(14336R^5-5664R^3s^2-97Rs^4)+r^8(21504R^6-48256R^4s^2+3336R^2s^4-109s^6)- \\
& 16r^7(1024R^7+1920R^5s^2-1256R^3s^4-31Rs^6)+ \\
& r^6(1024R^6s^2+16768R^4s^4-4504R^2s^6-81s^8)+ \\
& 4r^5(1536R^5s^4-1504R^3s^6+91Rs^8)+r^4(-1408R^4s^6+1540R^2s^8-3s^{10}))/ \\
& (15r^6+140r^5R+60rRs^4-5s^6+r^4(400R^2-23s^2)+ \\
& 8r^3(40R^3-23Rs^2)-3r^2(80R^2s^2-7s^4))^2 \\
& |X_{58}X_{85}|^2: -\left((3r^{10}+76r^9R-s^{10}+64r^7R(74R^2+s^2)+r^8(812R^2+11s^2)+\right. \\
& 2r^6(8128R^4-118R^2s^2+7s^4)+8r^5(4096R^5-304R^3s^2+39Rs^4)+ \\
& r^4(35840R^6-5888R^4s^2+996R^2s^4+6s^6)+32r^3(512R^7-160R^5s^2+46R^3s^4-5Rs^6)- \\
& r^2(1024R^6s^2-1152R^4s^4+260R^2s^6+s^8)+r(-64R^3s^6+28Rs^8))/ \\
& \left.(3r^4+28r^3R-s^2(16R^2+s^2)+2r^2(40R^2+s^2)+r(64R^3-4Rs^2))^2\right) \\
& |X_{58}X_{86}|^2: -\frac{(r^2+2rR+s^2)^2(3r^6+40r^5R+24rRs^4-s^6+r^4(176R^2+53s^2)+16r^3(16R^3+3Rs^2)+r^2(112R^2s^2-15s^4))}{(3r^4+16r^3R+16rRs^2-5s^4+2r^2(8R^2+7s^2))^2} \\
& |X_{58}X_{88}|^2: -\left((r^2R(162r^7+747r^6R-Rs^6+18r^5(98R^2-17s^2)+10rs^4(-2R^2+s^2)+\right. \\
& 9r^4(428R^3+13Rs^2)+54r^3(96R^4-24R^2s^2+s^4)+7r^2(36R^3s^2-17Rs^4)))/ \\
& \left.(-9r^4+33r^3R+60r^2R^2-19rRs^2+s^4)^2\right) \\
& |X_{58}X_{89}|^2: -\left((r^2R(324r^7+2151r^6R-Rs^6+36r^5(163R^2-5s^2)+4rs^4(-5R^2+s^2)+\right. \\
& 9r^4(908R^3-59Rs^2)+12r^3(432R^4-78R^2s^2+s^4)+r^2(252R^3s^2-59Rs^4)))/ \\
& \left.(18r^4+15r^3R-5rRs^2+2s^4-12r^2(R^2+s^2))^2\right) \\
& |X_{58}X_{99}|^2: -\frac{(r^2+2rR+s^2)^2(3r^6+40r^5R+24rRs^4-s^6+r^4(176R^2+5s^2)+64r^3(4R^3-Rs^2)+r^2(-144R^2s^2+s^4))}{(-3r^2-4rR+s^2)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
& |X_{58}X_{141}|^2: (3r^{10}+28r^9R-20rRs^8+s^{10}+r^8(48R^2-67s^2)-32r^7(8R^3+15Rs^2)- \\
& 2r^6(512R^4+566R^2s^2-59s^4)-8r^5(128R^5+132R^3s^2-59Rs^4)+ \\
& r^4(-448R^4s^2+472R^2s^4-62s^6)+32r^3(7R^3s^4-2Rs^6)+r^2(52R^2s^6+7s^8))/ \\
& (4(3r^4+16r^3R-8rRs^2+s^4+4r^2(4R^2-s^2))^2) \\
& |X_{58}X_{142}|^2: \frac{1}{4(r+4R)^2(-3r^2-4rR+s^2)^2}(3r^8+28r^7R-32rR^3s^4+4R^2s^6+ \\
& r^6(48R^2-43s^2)-8r^5(32R^3+35Rs^2)+r^4(-1024R^4-588R^2s^2+17s^4)- \\
& 4r^3(256R^5+136R^3s^2-19Rs^4)-r^2(448R^4s^2-72R^2s^4+s^6)) \\
& |X_{58}X_{145}|^2: \frac{57r^6-140r^5R-28rRs^4+s^6-r^4(716R^2+13s^2)-8r^3(72R^3-19Rs^2)+r^2(228R^2s^2-5s^4)}{(-3r^2-4rR+s^2)^2}
\end{aligned}$$

$$|X_{58}X_{190}|^2:$$

$$\begin{aligned} & (-27 r^{10} - 372 r^9 R - 36 r R s^8 + s^{10} - r^8 (1852 R^2 + 27 s^2) + r^7 (-3936 R^3 + 832 R s^2) + \\ & r^6 (-3264 R^4 + 3196 R^2 s^2 + 18 s^4) - 8 r^5 (128 R^5 - 664 R^3 s^2 + 73 R s^4) + \\ & 2 r^4 (1312 R^4 s^2 - 970 R^2 s^4 + 5 s^6) - 224 r^3 (9 R^3 s^4 - R s^6) + r^2 (436 R^2 s^6 - 7 s^8) \Big) / \\ & (9 r^4 + 48 r^3 R - 16 r R s^2 + s^4 + 6 r^2 (8 R^2 - s^2))^2 \end{aligned}$$

$$|X_{58}X_{192}|^2:$$

$$\begin{aligned} & (-15 r^{10} - 212 r^9 R - 36 r R s^8 + s^{10} + r^8 (-1116 R^2 + 5 s^2) - 32 r^7 (83 R^3 - 23 R s^2) + \\ & r^6 (-2752 R^4 + 3196 R^2 s^2 + 42 s^4) - 8 r^5 (128 R^5 - 632 R^3 s^2 + 93 R s^4) + \\ & 2 r^4 (1312 R^4 s^2 - 1210 R^2 s^4 + 5 s^6) - 32 r^3 (63 R^3 s^4 - 10 R s^6) + r^2 (436 R^2 s^6 - 11 s^8) \Big) / \\ & (3 r^4 + 16 r^3 R - s^4 + 2 r^2 (8 R^2 + s^2))^2 \end{aligned}$$

$$|X_{58}X_{194}|^2:$$

$$\begin{aligned} & (-15 r^{14} - 332 r^{13} R - 28 r R s^{12} + s^{14} - 8 r^3 R s^8 (64 R^2 - 29 s^2) + 3 r^2 s^{10} (76 R^2 - 3 s^2) - \\ & r^{12} (3052 R^2 + 25 s^2) - 8 r^{11} (1872 R^3 - 5 R s^2) - r^4 s^6 (1408 R^4 + 860 R^2 s^2 + 11 s^4) + \\ & r^{10} (-41856 R^4 + 2100 R^2 s^2 + 37 s^4) + r^9 (-65536 R^5 + 8832 R^3 s^2 + 380 R s^4) + \\ & r^8 (-52224 R^6 + 12160 R^4 s^2 + 3848 R^2 s^4 + 99 s^6) - \\ & 16 r^7 (1024 R^7 - 384 R^5 s^2 - 808 R^3 s^4 + 25 R s^6) + \\ & r^6 (1024 R^6 s^2 + 15744 R^4 s^4 - 2392 R^2 s^6 + 51 s^8) + 4 r^5 (1536 R^5 s^4 - 800 R^3 s^6 - 37 R s^8) \Big) / \\ & (3 r^6 + 28 r^5 R + 12 r R s^4 - s^6 + 5 r^4 (16 R^2 + s^2) + 8 r^3 (8 R^3 - 3 R s^2) + r^2 (-48 R^2 s^2 + s^4))^2 \end{aligned}$$

$$|X_{58}X_{200}|^2: \quad - \frac{4 R (8 r^6 R + 20 r R^2 s^4 - R s^6 + r^5 (64 R^2 - 6 s^2) + 4 r^4 R (27 R^2 + s^2) - r^2 R s^2 (68 R^2 + s^2) + 2 r^3 (32 R^4 - 30 R^2 s^2 + s^4))}{(r - 2 R)^2 (-3 r^2 - 4 r R + s^2)^2}$$

$$|X_{58}X_{210}|^2:$$

$$\frac{-9 r^6 R + 4 R s^6 + r^5 (-60 R^2 + 18 s^2) + r^4 (-76 R^3 + 18 R s^2) - 4 r^3 (16 R^4 - 43 R^2 s^2 + 3 s^4) + r^2 (132 R^3 s^2 - 17 R s^4) + r (-72 R^2 s^4 + 2 s^6)}{9 R (-3 r^2 - 4 r R + s^2)^2}$$

$$|X_{58}X_{213}|^2:$$

$$\begin{aligned} & (4 r^4 R^2 \\ & (r^8 + 16 r^7 R + 96 r^6 R^2 + 16 R^2 s^6 - 3 s^8 + 8 r^5 (32 R^3 + 3 R s^2) + 2 r^4 (128 R^4 + 96 R^2 s^2 - 3 s^4) + \\ & 64 r^3 (6 R^3 s^2 - R s^4) - 8 r^2 (10 R^2 s^4 + s^6) - 8 r (32 R^3 s^4 - 7 R s^6) \Big) / \\ & (3 r^6 + 28 r^5 R - 3 r^2 s^4 - 8 r R s^4 + s^6 + r^4 (80 R^2 - s^2) + 4 r^3 R (16 R^2 + s^2))^2 \end{aligned}$$

$$|X_{58}X_{238}|^2:$$

$$- \frac{4 r^2 R^2 (3 r^6 + 40 r^5 R + 8 r R s^4 - s^6 + r^4 (176 R^2 + 53 s^2) + 16 r^3 (16 R^3 + 3 R s^2) + r^2 (112 R^2 s^2 - 15 s^4))}{(9 r^4 + 48 r^3 R - 16 r R s^2 + s^4 + 6 r^2 (8 R^2 - s^2))^2}$$

$$|X_{58}X_{239}|^2:$$

$$\begin{aligned} & (9 r^{10} + 108 r^9 R - 20 r R s^8 + s^{10} + r^8 (452 R^2 + 21 s^2) + 48 r^7 (14 R^3 + 3 R s^2) + \\ & r^6 (-192 R^4 + 540 R^2 s^2 + 10 s^4) - 8 r^5 (128 R^5 - 168 R^3 s^2 + 39 R s^4) + \\ & r^4 (576 R^4 s^2 - 596 R^2 s^4 - 6 s^6) - 16 r^3 (22 R^3 s^4 - 9 R s^6) + r^2 (84 R^2 s^6 - 3 s^8) \Big) / \\ & (9 r^4 + 48 r^3 R - 16 r R s^2 + s^4 + 6 r^2 (8 R^2 - s^2))^2 \end{aligned}$$

$$|X_{58}X_{244}|^2:$$

$$- \frac{16 r^4 R (12 r^5 + 90 r^4 R - 25 R^3 s^2 + 6 R s^4 + 2 r^3 (143 R^2 - 8 s^2) + r^2 (491 R^3 - 48 R s^2) + 2 r (200 R^4 - 69 R^2 s^2 + 2 s^4))}{(-3 r^4 + 38 r^3 R - 18 r R s^2 + s^4 + r^2 (56 R^2 - 2 s^2))^2}$$

$$|X_{58}X_{304}|^2:$$

$$\begin{aligned} & (-3 r^{14} - 76 r^{13} R - 28 r R s^{12} + s^{14} - r^2 s^{10} (-228 R^2 + s^2) - \\ & r^{12} (812 R^2 + 5 s^2) + r^{11} (-4736 R^3 + 88 R s^2) + r^4 s^6 (1408 R^4 - 876 R^2 s^2 - 7 s^4) + \\ & r^{10} (-16256 R^4 + 1572 R^2 s^2 + 5 s^4) - 4 r^9 (8192 R^5 - 1952 R^3 s^2 + 161 R s^4) + \\ & r^8 (-35840 R^6 + 16000 R^4 s^2 - 4712 R^2 s^4 + 11 s^6) - 16 r^7 \\ & (1024 R^7 - 768 R^5 s^2 + 720 R^3 s^4 - 53 R s^6) + r^6 (1024 R^6 s^2 - 12416 R^4 s^4 + 3064 R^2 s^6 - s^8) - \\ & 4 r^5 (1536 R^5 s^4 - 992 R^3 s^6 + 69 R s^8) + r^3 (-640 R^3 s^8 + 88 R s^{10}) \Big) / \\ & (3 r^6 + 28 r^5 R - 12 r R s^4 + s^6 + r^4 (80 R^2 - s^2) + 16 r^3 R (4 R^2 + s^2) + r^2 (16 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

$$|X_{58}X_{306}|^2:$$

$$\begin{aligned} & (9 r^{10} + 72 r^9 R - 24 r R s^8 + s^{10} + r^8 (200 R^2 - 87 s^2) + 32 r^3 R s^4 (-3 R^2 + s^2) + 160 r^7 (R^3 - 3 R s^2) - \\ & 2 r^6 (88 R^4 + 516 R^2 s^2 - 59 s^4) - 16 r^5 (16 R^5 + 68 R^3 s^2 - 17 R s^4) + \\ & r^4 (-496 R^4 s^2 + 56 R^2 s^4 - 42 s^6) + r^2 (136 R^2 s^6 + s^8)) / \\ & (9 r^4 + 30 r^3 R - 10 r R s^2 + s^4 + 6 r^2 (4 R^2 - s^2))^2 \end{aligned}$$

$$|X_{58}X_{312}|^2:$$

$$\begin{aligned} & (-3 r^{10} - 76 r^9 R - 28 r R s^8 + s^{10} + 32 r^3 R s^4 (-18 R^2 + s^2) - \\ & r^8 (332 R^2 + 11 s^2) - 64 r^7 (6 R^3 - 5 R s^2) + 2 r^6 (128 R^4 + 198 R^2 s^2 - 7 s^4) + \\ & 8 r^5 (72 R^3 s^2 - 7 R s^4) - 6 r^4 (54 R^2 s^4 + s^6) + r^2 (228 R^2 s^6 + s^8)) / \\ & (-3 r^4 + 20 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 2 s^2))^2 \end{aligned}$$

$$|X_{58}X_{319}|^2:$$

$$\begin{aligned} & - \left((3 r^{10} + 52 r^9 R + 180 r R s^8 - 9 s^{10} - 48 r^3 R s^4 (6 R^2 + s^2) + r^8 (348 R^2 + 131 s^2) + \right. \\ & 16 r^7 (70 R^3 + 61 R s^2) + 2 r^6 (864 R^4 + 1378 R^2 s^2 - 265 s^4) + \\ & 8 r^5 (128 R^5 + 424 R^3 s^2 - 169 R s^4) + 2 r^4 (736 R^4 s^2 - 486 R^2 s^4 + 171 s^6) - \\ & \left. 3 r^2 (188 R^2 s^6 + 11 s^8)) / (3 r^4 + 16 r^3 R - 16 r R s^2 + 3 s^4 + 2 r^2 (8 R^2 - 5 s^2))^2 \right) \end{aligned}$$

$$|X_{58}X_{320}|^2:$$

$$- \frac{(3 r^2 - 6 r R + s^2)^2 (3 r^6 + 40 r^5 R + 8 r R s^4 - s^6 + r^4 (176 R^2 + 53 s^2) + 16 r^3 (16 R^3 + 3 R s^2) + r^2 (112 R^2 s^2 - 15 s^4))}{(9 r^4 + 48 r^3 R - 16 r R s^2 + s^4 + 6 r^2 (8 R^2 - s^2))^2}$$

$$|X_{58}X_{321}|^2:$$

$$\begin{aligned} & (-3 r^{10} - 64 r^9 R - 24 r R s^8 + s^{10} - r^8 (376 R^2 + 11 s^2) + \\ & r^7 (-896 R^3 + 232 R s^2) - 2 r^6 (408 R^4 - 404 R^2 s^2 + 7 s^4) - 8 r^5 (32 R^5 - 140 R^3 s^2 + 17 R s^4) + \\ & 6 r^4 (88 R^4 s^2 - 76 R^2 s^4 - s^6) - 8 r^3 (52 R^3 s^4 - 7 R s^6) + r^2 (152 R^2 s^6 + s^8)) / \\ & (-3 r^4 + 2 r^3 R - 6 r R s^2 + s^4 + r^2 (8 R^2 - 2 s^2))^2 \end{aligned}$$

$$|X_{58}X_{345}|^2:$$

$$\begin{aligned} & (21 r^{10} + 148 r^9 R - 28 r R s^8 + s^{10} + r^8 (404 R^2 - 103 s^2) + \\ & 16 r^7 (32 R^3 - 27 R s^2) + 2 r^6 (128 R^4 - 274 R^2 s^2 + 55 s^4) - 24 r^5 (8 R^3 s^2 - 3 R s^4) - \\ & 2 r^4 (266 R^2 s^4 + 13 s^6) - 16 r^3 (36 R^3 s^4 - 7 R s^6) + 3 r^2 (76 R^2 s^6 - s^8)) / \\ & (15 r^4 + 44 r^3 R - 12 r R s^2 + s^4 + 8 r^2 (4 R^2 - s^2))^2 \end{aligned}$$

$$|X_{58}X_{346}|^2:$$

$$\begin{aligned} & (-28 r R s^8 + s^{10} + 4 r^8 (4 R^2 - 3 s^2) + 16 r^7 (8 R^3 - R s^2) + r^6 (256 R^4 - 16 R^2 s^2 + 37 s^4) + \\ & 4 r^5 (48 R^3 s^2 + 5 R s^4) - r^4 (428 R^2 s^4 + 17 s^6) - 72 r^3 (8 R^3 s^4 - R s^6) + r^2 (228 R^2 s^6 - s^8)) / \\ & (6 r^4 + 32 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 5 s^2))^2 \end{aligned}$$

$$|X_{58}X_{350}|^2:$$

$$\begin{aligned} & (-3 r^{14} - 76 r^{13} R - 28 r R s^{12} + s^{14} + 8 r^3 R s^8 (24 R^2 - 7 s^2) + r^2 s^{10} (196 R^2 + 3 s^2) - \\ & r^{12} (812 R^2 + 17 s^2) - 8 r^{11} (592 R^3 + 15 R s^2) + r^{10} (-16 256 R^4 + 276 R^2 s^2 - 39 s^4) + \\ & r^9 (-32 768 R^5 + 4800 R^3 s^2 + 124 R s^4) + r^8 (-35 840 R^6 + 17 280 R^4 s^2 + 2312 R^2 s^4 - 45 s^6) + \\ & 16 r^7 R (-1024 R^6 + 1728 R^4 s^2 + 316 R^2 s^4 + 19 s^6) + \\ & r^6 (17 408 R^6 s^2 + 3712 R^4 s^4 - 2328 R^2 s^6 - 25 s^8) + \\ & 4 r^5 (256 R^5 s^4 - 1072 R^3 s^6 + 27 R s^8) + r^4 (-4224 R^4 s^6 + 740 R^2 s^8 - 3 s^{10})) / \\ & (3 r^6 + 28 r^5 R + 20 r R s^4 - s^6 + 5 r^4 (16 R^2 + s^2) + 16 r^3 (4 R^3 - 3 R s^2) + r^2 (-80 R^2 s^2 + s^4))^2 \end{aligned}$$

$$|X_{63}X_{65}|^2:$$

$$- \frac{2 r^5 - 10 r^4 R - 23 r^3 R^2 + R^3 s^2 + r^2 (-28 R^3 + R s^2) + r (-16 R^4 + 3 R^2 s^2)}{R (r+R)^2}$$

$$|X_{63}X_{69}|^2:$$

$$- \frac{r^2 (r^6 + 16 r^5 R - 16 R^4 s^2 - 4 R^2 s^4 + s^6 + r^4 (100 R^2 + 7 s^2) + 16 r^3 (19 R^3 + 2 R s^2) + r^2 (448 R^4 + 48 R^2 s^2 - 9 s^4) + 16 r (16 R^5 + R^3 s^2 - R s^4))}{(r+R)^2 (r^2 + 4 r R - s^2)^2}$$

$$|X_{63}X_{72}|^2:$$

$$- \frac{r^2 (r^3 + 5 r^2 R + 6 r R^2 - R^3 - r s^2)}{R (r+R)^2}$$

$$|X_{63}X_{75}|^2:$$

$$-\frac{r^2(r^6+16r^5R-16R^4s^2-4R^2s^4+s^6+r^4(100R^2+3s^2)+8r^3(38R^3-Rs^2)+8rR(32R^4-14R^2s^2+s^4)+r^2(448R^4-80R^2s^2+3s^4))}{(r+R)^2(r^2+4rR+s^2)^2}$$

$$|X_{63}X_{76}|^2:$$

$$-\left((r^2(r^{10}+24r^9R-16R^4s^6-4R^2s^8+s^{10}+r^8(244R^2+5s^2)+8r^7(170R^3+7Rs^2)+10r^6(448R^4+20R^2s^2+s^4)+8r^5(1088R^5+10R^3s^2+3Rs^4)+2r^4(4608R^6-584R^4s^2-104R^2s^4+5s^6)+8r^3(512R^7-368R^5s^2-58R^3s^4-3Rs^6)+r^2(-2304R^6s^2-32R^4s^4+88R^2s^6+5s^8)+16r(24R^5s^4+3R^3s^6-Rs^8))\right)/\left((r+R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2\right)$$

$$|X_{63}X_{78}|^2:$$

$$-\frac{4r^2R(r^3+5r^2R+6rR^2-R^3-rs^2)}{(r^2-R^2)^2}$$

$$|X_{63}X_{79}|^2:$$

$$-\frac{8r^5R-9R^4s^2+24r^3R(10R^2+s^2)+2r^4(37R^2+8s^2)+9r^2(35R^4-2R^2s^2)+36r(4R^5-R^3s^2)}{(2r^2+5rR+3R^2)^2}$$

$$|X_{63}X_{80}|^2:$$

$$\frac{4r^5+18r^4R-R^3s^2+r^3(34R^2-4s^2)+r^2(27R^3-2Rs^2)+2r(8R^4-R^2s^2)}{(2r-R)(r+R)^2}$$

$$|X_{63}X_{81}|^2:$$

$$\frac{Rs^4(-6r^3-19r^2R+Rs^2+2r(-8R^2+s^2))}{(r+R)^2(r^2+rR-s^2)^2}$$

$$|X_{63}X_{83}|^2:$$

$$\begin{aligned} &(-r^{12}-32r^{11}R+16R^2s^{10}+32rRs^8(-15R^2+s^2)+r^{10}(-436R^2+3s^2)-8r^9(410R^3-13Rs^2)+ \\ &r^2s^6(4752R^4-716R^2s^2-9s^4)+8r^3Rs^4(-2672R^4+806R^2s^2+s^4)+ \\ &r^8(-14720R^4+1432R^2s^2+6s^4)-8r^7(4928R^5-1242R^3s^2+17Rs^4)- \\ &2r^6(29184R^6-18184R^4s^2+976R^2s^4+5s^6)- \\ &8r^5(4608R^7-8240R^5s^2+1418R^3s^4-27Rs^6)+ \\ &r^4(45312R^6s^2-29152R^4s^4+1336R^2s^6-21s^8))/ \\ &\left((r+R)^2(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2\right) \end{aligned}$$

$$|X_{63}X_{85}|^2:$$

$$-\frac{1}{(r+R)^2(r^2+8rR+16R^2+s^2)^2}(r^8+24r^7R-256R^6s^2+r^6(244R^2+3s^2)+8r^5(170R^3+3Rs^2)+128r(32R^7-7R^5s^2)+r^4(4480R^4+16R^2s^2+3s^4)+16r^3(544R^5-19R^3s^2+2Rs^4)+r^2(9216R^6-912R^4s^2+44R^2s^4+s^6))$$

$$|X_{63}X_{86}|^2:$$

$$-\frac{1}{(r+R)^2(r^2+4rR+5s^2)^2}(r^8+16r^7R-16R^2s^6+r^6(100R^2+11s^2)+8r^5(38R^3+11Rs^2)+r^4(448R^4+336R^2s^2+19s^4)+8r^3(32R^5+82R^3s^2+9Rs^4)+r^2(496R^4s^2+172R^2s^4+9s^6)+32r(7R^3s^4-Rs^6))$$

$$|X_{63}X_{88}|^2:$$

$$\frac{R(-36r^6R+Rs^6+12r^5(-36R^2+s^2)-12r^4(144R^3+5Rs^2)+6r^3(-384R^4+112R^2s^2+s^4)+r^2(528R^3s^2-67Rs^4)+r(-40R^2s^4+2s^6))}{(r+R)^2(3r^2-15rR+s^2)^2}$$

$$|X_{63}X_{89}|^2:$$

$$-\frac{R(9r^6R-4Rs^6+12r^5(9R^2+s^2)+3r^4(144R^3+55Rs^2)+12r^3(48R^4+26R^2s^2+3s^4)+4r^2(87R^3s^2+7Rs^4)+8r(5R^2s^4-s^6))}{(r+R)^2(-6r^2+3rR+2s^2)^2}$$

$$|X_{63}X_{99}|^2:$$

$$-\frac{r^2(r^6+16r^5R-16R^4s^2-4R^2s^4+s^6+r^4(100R^2+3s^2)+8r^3(38R^3-Rs^2)+8rR(32R^4-14R^2s^2+s^4)+r^2(448R^4-80R^2s^2+3s^4))}{(r+R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}$$

$$\begin{aligned}
|X_{63}X_{141}|^2 &: \frac{1}{4(r+R)^2(r^2+4rR-s^2)^2} \\
& \quad (-r^8 - 18r^7R + R^2s^6 - r^6(129R^2 + 5s^2) - 2r^5(230R^3 + 9Rs^2) + r^4(-816R^4 + 51R^2s^2 + 9s^4) + \\
& \quad r^3(-576R^5 + 256R^3s^2 + 18Rs^4) + r^2(228R^4s^2 - 31R^2s^4 - 3s^6) + r(-28R^3s^4 + 2Rs^6)) \\
|X_{63}X_{142}|^2 &: -\frac{(r+3R)^2(r^4+12r^3R-4R^2s^2+r^2(48R^2+5s^2))+8r(8R^3-Rs^2)}{4(r^2+5rR+4R^2)^2} \\
|X_{63}X_{145}|^2 &: \frac{7r^4-28r^3R+4R^2s^2+8rR(-8R^2+s^2)+r^2(-96R^2+3s^2)}{(r+R)^2} \\
|X_{63}X_{190}|^2 &: -\frac{r^2(r^6+8r^5R-16R^4s^2-4R^2s^4+s^6-40r^3R(2R^2+s^2)+r^4(4R^2+3s^2)+r^2(-64R^4+48R^2s^2+3s^4)+16r(16R^5+3R^3s^2-Rs^4))}{(r+R)^2(-3r^2-12rR+s^2)^2} \\
|X_{63}X_{192}|^2 &: \frac{1}{(r+R)^2(r^2+4rR+s^2)^2} \\
& \quad (-r^8 - 12r^7R + 4R^2s^6 + r^6(-48R^2 + s^2) + 8rRs^4(-8R^2 + s^2) - 64r^5(R^3 - Rs^2) + \\
& \quad r^4(164R^2s^2 + 5s^4) + 4r^3(32R^3s^2 - 11Rs^4) + r^2(-104R^2s^4 + 3s^6)) \\
|X_{63}X_{194}|^2 &: -\left(\left((r^2+s^2)^2(r^8+20r^7R-4R^2s^6+r^6(160R^2-s^2)+16r^5(40R^3-3Rs^2)+\right.\right. \\
& \quad \left.\left.r^4(1280R^4-372R^2s^2-5s^4)+4r^3(256R^5-232R^3s^2+13Rs^4)-\right.\right. \\
& \quad \left.\left.3r^2(192R^4s^2-56R^2s^4+s^6)+r(96R^3s^4-8Rs^6)\right)\right) / \\
& \quad \left((r+R)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2\right) \\
|X_{63}X_{200}|^2 &: -\frac{r^2(2r-R)R(r^2+8rR+16R^2-3s^2)}{(r^2-rR-2R^2)^2} \\
|X_{63}X_{210}|^2 &: \frac{(2r-R)(r^3R-R^2s^2+r^2(8R^2+s^2)+r(16R^3-3Rs^2))}{9R(r+R)^2} \\
|X_{63}X_{213}|^2 &: \\
& \quad (R(-r^{10}R+224r^3R^4s^4+Rs^{10}+2rs^8(-10R^2+s^2)+r^9(-20R^2+2s^2)+r^8(-160R^3+21Rs^2)- \\
& \quad 80r^7(8R^4-R^2s^2)-2r^6(640R^5-58R^3s^2-9Rs^4)- \\
& \quad 4r^5(256R^6+24R^4s^2-30R^2s^4+s^6)+r^4(-448R^5s^2+392R^3s^4-30Rs^6)+ \\
& \quad r^2(52R^3s^6-25Rs^8))) / ((r+R)^2(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2) \\
|X_{63}X_{238}|^2 &: \frac{1}{(r+R)^2(-3r^2-12rR+s^2)^2} \\
& \quad R(-10r^7-127r^6R+Rs^6+r^5(-600R^2+14s^2)+r^4(-1264R^3+123Rs^2)- \\
& \quad 2r^3(512R^4-228R^2s^2+3s^4)+r^2(320R^3s^2-53Rs^4)+r(-32R^2s^4+2s^6)) \\
|X_{63}X_{239}|^2 &: \frac{1}{(r+R)^2(-3r^2-12rR+s^2)^2} \\
& \quad (-r^8-20r^7R+4R^2s^6+r^6(-160R^2+s^2)+r^5(-640R^3+48Rs^2)+ \\
& \quad r^4(-1280R^4+372R^2s^2+5s^4)-4r^3(256R^5-232R^3s^2+13Rs^4)+ \\
& \quad 3r^2(192R^4s^2-56R^2s^4+s^6)+r(-96R^3s^4+8Rs^6)) \\
|X_{63}X_{244}|^2 &: \frac{1}{(r+R)^2(r^2-14rR+s^2)^2} \\
& \quad R(-14r^7-195r^6R+Rs^6-2r^5(516R^2-7s^2)+r^4(-2480R^3+103Rs^2)- \\
& \quad 2r^3(1152R^4-376R^2s^2+s^4)+r^2(528R^3s^2-69Rs^4)+r(-40R^2s^4+2s^6))
\end{aligned}$$

$$\begin{aligned}
& |X_{63}X_{304}|^2: \\
& - \left((r^2 (r^{10} + 24 r^9 R - 16 R^4 s^6 - 4 R^2 s^8 + s^{10} + r^8 (244 R^2 + s^2) + 8 r^7 (170 R^3 - R s^2) + \right. \\
& \quad 2 r^6 (2240 R^4 - 84 R^2 s^2 - s^4) + 8 r^5 (1088 R^5 - 86 R^3 s^2 + 7 R s^4) + \\
& \quad r^4 (9216 R^6 - 656 R^4 s^2 + 304 R^2 s^4 - 2 s^6) + 8 r^3 (512 R^7 + 144 R^5 s^2 + 38 R^3 s^4 - 7 R s^6) + \\
& \quad r^2 (1792 R^6 s^2 - 96 R^4 s^4 + 8 R^2 s^6 + s^8) + 16 r (8 R^5 s^4 + 3 R^3 s^6 - R s^8))) / \\
& \quad \left((r+R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2 \right) \\
& |X_{63}X_{306}|^2: \\
& - \frac{r^2 (r^6 + 16 r^5 R - 16 R^4 s^2 - 4 R^2 s^4 + s^6 + r^4 (100 R^2 + 7 s^2) + 16 r^3 (19 R^3 + 2 R s^2) + r^2 (448 R^4 + 48 R^2 s^2 - 9 s^4) + 16 r (16 R^5 + R^3 s^2 - R s^4))}{(r+R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& |X_{63}X_{312}|^2: \\
& - \frac{r^2 (r^6 + 8 r^5 R - 16 R^4 s^2 - 4 R^2 s^4 + s^6 - 40 r^3 R (2 R^2 + s^2) + r^4 (4 R^2 + 3 s^2) + r^2 (-64 R^4 + 48 R^2 s^2 + 3 s^4) + 16 r (16 R^5 + 3 R^3 s^2 - R s^4))}{(r+R)^2 (r^2 - 8 r R + s^2)^2} \\
& |X_{63}X_{319}|^2: \\
& - \frac{r^2 (r^6 + 16 r^5 R - 16 R^4 s^2 - 36 R^2 s^4 + 9 s^6 + r^4 (100 R^2 + 11 s^2) + 8 r^3 (38 R^3 + 9 R s^2) + r^2 (448 R^4 + 176 R^2 s^2 - 45 s^4) + 8 r (32 R^5 + 18 R^3 s^2 - 9 R s^4))}{(r+R)^2 (r^2 + 4 r R - 3 s^2)^2} \\
& |X_{63}X_{320}|^2: \\
& - \frac{1}{(r+R)^2 (-3 r^2 - 12 r R + s^2)^2} r^2 (9 r^6 + 144 r^5 R - 144 R^4 s^2 - 4 R^2 s^4 + s^6 + r^4 (900 R^2 + 51 s^2) + \\
& \quad 24 r^3 (114 R^3 + 7 R s^2) + 3 r^2 (1344 R^4 + 16 R^2 s^2 - 7 s^4) + 8 r (288 R^5 - 30 R^3 s^2 - 5 R s^4)) \\
& |X_{63}X_{321}|^2: \\
& - \frac{r^2 (r^6 + 12 r^5 R - 4 r R s^4 - 4 R^2 s^4 + s^6 + 3 r^4 (16 R^2 + s^2) + 8 r^3 (8 R^3 - 3 R s^2) + r^2 (-36 R^2 s^2 + 3 s^4))}{(r+R)^2 (r^2 - 2 r R + s^2)^2} \\
& |X_{63}X_{345}|^2: \\
& - \frac{r^2 (r^6 + 16 r^5 R - 16 R^4 s^2 - 4 R^2 s^4 + s^6 + r^4 (100 R^2 + 7 s^2) + 16 r^3 (19 R^3 + 2 R s^2) + r^2 (448 R^4 + 48 R^2 s^2 - 9 s^4) + 16 r (16 R^5 + R^3 s^2 - R s^4))}{(r+R)^2 (-5 r^2 - 8 r R + s^2)^2} \\
& |X_{63}X_{346}|^2: \\
& - \frac{r^2 (4 r^4 R^2 - 16 R^4 s^2 - 4 R^2 s^4 + s^6 + 4 r^3 R (12 R^2 + s^2) + r^2 (192 R^4 + 52 R^2 s^2 - 3 s^4) + 16 r (16 R^5 + 2 R^3 s^2 - R s^4))}{(r+R)^2 (-2 r^2 - 8 r R + s^2)^2} \\
& |X_{63}X_{350}|^2: \\
& - \left((r^2 (r^{10} + 24 r^9 R - 144 R^4 s^6 - 4 R^2 s^8 + s^{10} + 40 r^7 R (34 R^2 + s^2) + r^8 (244 R^2 + 5 s^2) + \right. \\
& \quad 2 r^6 (2240 R^4 - 28 R^2 s^2 + 5 s^4) + 8 r^5 (1088 R^5 - 190 R^3 s^2 - 3 R s^4) + 2 r^4 \\
& \quad (4608 R^6 - 3016 R^4 s^2 - 168 R^2 s^4 + 5 s^6) + 8 r^3 (512 R^7 - 1264 R^5 s^2 + 14 R^3 s^4 - 9 R s^6) + \\
& \quad r^2 (-6400 R^6 s^2 + 2400 R^4 s^4 + 216 R^2 s^6 + 5 s^8) + 16 r (168 R^5 s^4 - 5 R^3 s^6 - 2 R s^8))) / \\
& \quad \left((r+R)^2 (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \\
& |X_{65}X_{69}|^2: \\
& - \frac{(r^2 - s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{R (r^2 + 4 r R - s^2)^2} \\
& |X_{65}X_{72}|^2: \\
& - 19 r^2 - \frac{6 r^3}{R} - 16 r R + s^2 + \frac{2 r s^2}{R} \\
& |X_{65}X_{75}|^2: \\
& - \frac{(r^2 + s^2)^2 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{R (r^2 + 4 r R + s^2)^2} \\
& |X_{65}X_{76}|^2: \\
& (-r^{11} - 16 r^{10} R + R s^{10} - 3 r^9 (32 R^2 + s^2) + 12 r^6 R s^2 (44 R^2 + s^2) - r^8 (256 R^3 + 7 R s^2) - \\
& \quad 2 r^7 (128 R^4 - 60 R^2 s^2 + s^4) + 2 r^5 (256 R^4 s^2 - 68 R^2 s^4 + s^6) - 2 r^4 (176 R^3 s^4 + 9 R s^6) + \\
& \quad r^3 (-256 R^4 s^4 + 136 R^2 s^6 + 3 s^8) + 4 r^2 (36 R^3 s^6 - 5 R s^8) + r (-24 R^2 s^8 + s^{10})) / \\
& \quad (R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \\
& |X_{65}X_{78}|^2: \\
& - \frac{2 r^5 + 4 r^4 R + 11 r^3 R^2 + R^3 s^2 - r^2 R (8 R^2 + s^2) + r (-16 R^4 + R^2 s^2)}{(r-R)^2 R} \\
& |X_{65}X_{79}|^2: \\
& - \frac{r^2 (2 r - R) (2 r^2 + 8 r R + 9 R^2 - 2 s^2)}{R (2 r + 3 R)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{65}X_{80}|^2 &= -\frac{r^2(2r^2+8rR+9R^2-2s^2)}{(2r-R)R} \\
|X_{65}X_{81}|^2 &= -\frac{r^2(2r^5+10r^4R-R^3s^2+r^3(23R^2-4s^2)+2r^2(14R^3-5Rs^2)+r(16R^4-11R^2s^2+2s^4))}{R(r^2+rR-s^2)^2} \\
|X_{65}X_{83}|^2 &= \frac{(-45r^{11}-816r^{10}R+Rs^{10}+5rs^8(-8R^2+s^2)+r^9(-5920R^2+129s^2)+r^8(-21760R^3+2009Rs^2)-2r^7(21120R^4-5732R^2s^2+85s^4)-4r^6(10240R^5-7284R^3s^2+501Rs^4)-2r^5(8192R^6-16000R^4s^2+3868R^2s^4-61s^6)+2r^4(6656R^5s^2-5104R^3s^4+455Rs^6)+r^3(-4096R^4s^4+1720R^2s^6-41s^8)+148r^2(4R^3s^6-Rs^8))}{R(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2} \\
|X_{65}X_{85}|^2 &= -\frac{(r^2+4rR+s^2)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{R(r^2+8rR+16R^2+s^2)^2} \\
|X_{65}X_{86}|^2 &= -\frac{r^7+8r^6R+63r^4R^2+38r^2R^3-Rs^6+r^5(16R^2+13s^2)+r^3(32R^2s^2+39s^4)+r(16R^2s^4-5s^6)}{R(r^2+4rR+5s^2)^2} \\
|X_{65}X_{88}|^2 &= -\frac{r^2(18r^5-108r^4R-9R^3s^2+2R^4s^2+3r^3(21R^2+4s^2)+6r^2(42R^3-5Rs^2)+r(144R^4-51R^2s^2+2s^4))}{R(3r^2-15rR+s^2)^2} \\
|X_{65}X_{89}|^2 &= -\frac{r^2(72r^5+162r^4R-9R^3s^2+2R^4s^2+3r^3(93R^2-16s^2)+12r^2(21R^3-5Rs^2)+r(144R^4-75R^2s^2+8s^4))}{R(-6r^2+3rR+2s^2)^2} \\
|X_{65}X_{99}|^2 &= \frac{-r^7-8r^6R+57r^4R^2-14r^2R^3+Rs^6+r^5(-16R^2+31s^2)+r^3(32R^2s^2+s^4)+r(-16R^2s^4+s^6)}{R(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
|X_{65}X_{141}|^2 &= \frac{-6r^7-57r^6R+R^2s^6-2r^5(86R^2-7s^2)+r^4(-176R^3+87Rs^2)-2r^3(32R^4-72R^2s^2+5s^4)+r^2(68R^3s^2-31Rs^4)+r(-20R^2s^4+2s^6)}{4R(r^2+4rR-s^2)^2} \\
|X_{65}X_{142}|^2 &= \frac{-6r^5-57r^4R+4R^3s^2+2r^3(-86R^2+s^2)+11r^2R(-16R^2+s^2)+16rR^2(-4R^2+s^2)}{4R(r+4R)^2} \\
|X_{65}X_{145}|^2 &= 20r^2 - \frac{3r^3}{R} - 16rR + s^2 - \frac{rs^2}{R} \\
|X_{65}X_{190}|^2 &= \frac{-21r^7-232r^6R+Rs^6+r^5(-912R^2+7s^2)+r^4(-1536R^3+97Rs^2)+r^3(-1024R^4+464R^2s^2-3s^4)+r^2(320R^3s^2-38Rs^4)+r(-32R^2s^4+s^6)}{R(-3r^2-12rR+s^2)^2} \\
|X_{65}X_{192}|^2 &= \frac{-3r^7+36r^6R-Rs^6+r^5(160R^2+7s^2)+r^4(320R^3+23Rs^2)+r^3(256R^4-104R^2s^2+5s^4)-2r^2(72R^3s^2+7Rs^4)+r(24R^2s^4+s^6)}{R(r^2+4rR+s^2)^2} \\
|X_{65}X_{194}|^2 &= \frac{-(3r^{11}+60r^{10}R-Rs^{10}+rs^8(16R^2+s^2)+r^9(496R^2+13s^2)+r^8(2176R^3+95Rs^2)+r^7(5376R^4+32R^2s^2+22s^4)+4r^6(1792R^5-248R^3s^2-3Rs^4)+2r^5(2048R^6-896R^4s^2+64R^2s^4+9s^6)-2r^4(128R^5s^2+160R^3s^4+35Rs^6)+r^3(-512R^4s^4+96R^2s^6+7s^8)+8r^2(4R^3s^6-3Rs^8))}{R(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{65}X_{200}|^2 &= \frac{-2r^5+7r^4R+20r^3R^2+4R^3s^2-2r^2R(16R^2+s^2)+r(-64R^4+4R^2s^2)}{(r-2R)^2R} \\
|X_{65}X_{210}|^2 &= -\frac{4(6r^3+19r^2R+16rR^2-2Rs^2-Rs^2)}{9R} \\
|X_{65}X_{213}|^2 &= \frac{-(r^2(2r^9+37r^8R+276r^7R^2-4R^3s^6+Rs^8)+4r^6(264R^3+5Rs^2)+4r^5(544R^4+49R^2s^2-s^4)+r^4(2304R^5+636R^3s^2-38Rs^4)+4r^3(256R^6+200R^4s^2-17R^2s^4)+4r^2(112R^5s^2-14R^3s^4-5Rs^6)+2r(16R^4s^4-10R^2s^6+s^8))}{R(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2}
\end{aligned}$$

$$|X_{65}X_{238}|^2: -\frac{r^2(18r^5+171r^4R-16R^3s^2+3Rs^4+4r^3(130R^2-3s^2)+r^2(560R^3-66Rs^2)+2r(128R^4-44R^2s^2+s^4))}{R(-3r^2-12rRs^2)^2}$$

$$|X_{65}X_{239}|^2: \frac{-15r^7-148r^6R+Rs^6+r^5(-480R^2+17s^2)+r^4(-576R^3+57Rs^2)-r^3(256R^4+72R^2s^2+s^4)+r^2(-112R^3s^2+30Rs^4)-r(8R^2s^4+s^6)}{R(-3r^2-12rRs^2)^2}$$

$$|X_{65}X_{244}|^2: -\frac{r^2(2r^5-39r^4R-4R^3s^2+Rs^4+4r^3(43R^2+s^2)+2r^2(80R^3-19Rs^2)+2r(32R^4-14R^2s^2+s^4))}{R(r^2-14rRs^2)^2}$$

$$|X_{65}X_{304}|^2: \frac{(-r^{11}-16r^{10}R+Rs^{10}+r^9(-96R^2+s^2)-r^8(256R^3+23Rs^2)+r^7(-256R^4-264R^2s^2+2s^4)-8r^6(94R^3s^2-5Rs^4)-2r^5(256R^4s^2+36R^2s^4+s^6)+r^4(-288R^3s^4+22Rs^6)-r^3(256R^4s^4-200R^2s^6+s^8)+24r^2(6R^3s^6-Rs^8)+r(-24R^2s^8+s^{10}))}{R(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2}$$

$$|X_{65}X_{306}|^2: \frac{-15r^7-88r^6R+Rs^6+r^5(-188R^2+11s^2)+r^4(-176R^3+69Rs^2)+r^3(-64R^4+128R^2s^2-5s^4)+2r^2(34R^3s^2-9Rs^4)+r(-20R^2s^4+s^6)}{R(-3r^2-6rRs^2)^2}$$

$$|X_{65}X_{312}|^2: \frac{-r^7+24r^6R+Rs^6-r^5(96R^2+s^2)+r^4(-320R^3+Rs^2)+r^3(-256R^4+168R^2s^2+s^4)+2r^2(72R^3s^2-11Rs^4)+r(-24R^2s^4+s^6)}{R(r^2-8rRs^2)^2}$$

$$|X_{65}X_{319}|^2: -\frac{(r^2-3s^2)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{R(r^2+4rRs^2)^2}$$

$$|X_{65}X_{320}|^2: -\frac{(-3r^2+s^2)^2(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{R(-3r^2-12rRs^2)^2}$$

$$|X_{65}X_{321}|^2: \frac{-r^7+8r^6R+Rs^6+r^5(4R^2-s^2)-r^4(48R^3+7Rs^2)+r^3(-64R^4+56R^2s^2+s^4)+2r^2(34R^3s^2-7Rs^4)+r(-20R^2s^4+s^6)}{R(r^2-2rRs^2)^2}$$

$$|X_{65}X_{345}|^2: \frac{-45r^7-248r^6R+Rs^6+r^5(-544R^2+19s^2)+r^4(-576R^3+129Rs^2)+r^3(-256R^4+248R^2s^2-7s^4)+2r^2(72R^3s^2-13Rs^4)+r(-24R^2s^4+s^6)}{R(-5r^2-8rRs^2)^2}$$

$$|X_{65}X_{346}|^2: \frac{-8r^7-84r^6R+Rs^6+r^5(-304R^2+6s^2)-64r^4(7R^3-Rs^2)+r^3(-256R^4+208R^2s^2-3s^4)+24r^2(6R^3s^2-Rs^4)+r(-24R^2s^4+s^6)}{R(-2r^2-8rRs^2)^2}$$

$$|X_{65}X_{350}|^2: \frac{(-r^{11}-16r^{10}R+Rs^{10}-3r^9(32R^2+s^2)+r^8(-256R^3+17Rs^2)-2r^7(128R^4-156R^2s^2+s^4)+r^6(912R^3s^2+52Rs^4)+2r^5(256R^4s^2-228R^2s^4+s^6)-2r^4(272R^3s^4+5Rs^6)+r^3(-256R^4s^4+264R^2s^6+3s^8)+4r^2(36R^3s^6-7Rs^8)+r(-24R^2s^8+s^{10}))}{R(r^4+8r^3R-16rR^2+s^4+2r^2(8R^2+s^2))^2}$$

$$|X_{69}X_{72}|^2: -\frac{r^2(2r^5+27r^4R-16R^3s^2+3Rs^4+4r^3(34R^2-s^2)+r^2(304R^3-30Rs^2)+2r(128R^4-36R^2s^2+s^4))}{R(r^2+4rRs^2)^2}$$

$$|X_{69}X_{75}|^2: -\frac{64r^2Rs^4(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(r^4+8r^3R+16r^2R^2-s^4)^2}$$

$$|X_{69}X_{76}|^2: \frac{64r^4R^2s^4(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}{(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-Rs^2)-r^2(48R^2s^2+s^4))^2}$$

$$|X_{69}X_{78}|^2: \frac{r^2(r^6+12r^5R+r^4(48R^2-9s^2)+24r^3(2R^3-Rs^2)+(-4R^2s+s^3)^2+r^2(-128R^4+8R^2s^2+7s^4)-4r(64R^5-36R^3s^2+5Rs^4))}{(r-R)^2(r^2+4rRs^2)^2}$$

$$|X_{69}X_{79}|^2: \frac{R(2r^7+25r^6R-177r^2Rs^4+9Rs^6+2r^5(52R^2-s^2)+r^4(144R^3-113Rs^2)-6r^3(20R^2s^2+3s^4)-18r(8R^2s^4-s^6))}{(2r+3R)^2(r^2+4rRs^2)^2}$$

$$|X_{69}X_{80}|^2: -\frac{R(9r^6+72r^5R+72r^3Rs^2-r^2s^4-16rRs^4+s^6+9r^4(16R^2-s^2))}{(2r-R)(r^2+4rRs^2)^2}$$

$$|X_{69}X_{81}|^2: - \frac{(r^6+2rR-s^2)^2(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4))}{(r^4+5r^3R-5rRs^2+s^4+r^2(4R^2-2s^2))^2}$$

$$|X_{69}X_{83}|^2: - \left((16(r^{14}+28r^{13}R+28rRs^{12}-s^{14}+112r^{11}R(20R^2+s^2)+7r^{12}(48R^2+s^2)+16r^3Rs^8(32R^2+7s^2)-r^2s^{10}(228R^2+7s^2)+r^{10}(8960R^4+668R^2s^2-41s^4)+r^4s^6(1408R^4-852R^2s^2+41s^4)+4r^9(5376R^5+432R^3s^2-151Rs^4)+r^8(28672R^6+1408R^4s^2-3268R^2s^4+81s^6)+32r^7(512R^7-32R^5s^2-251R^3s^4+29Rs^6)-r^6(1024R^6s^2+9536R^4s^4-3392R^2s^6+81s^8)+r^5(-6144R^5s^4+4064R^3s^6-604Rs^8))) / (5r^6+60r^5R+60rRs^4-5s^6+r^4(240R^2-11s^2)+8r^3(40R^3-13Rs^2)+r^2(-240R^2s^2+11s^4))^2 \right)$$

$$|X_{69}X_{85}|^2: - \frac{64R(r+2R)^2s^4(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(r^4+12r^3R+48r^2R^2+64rR^3-4rRs^2-16R^2s^2-s^4)^2}$$

$$|X_{69}X_{86}|^2: - \frac{16s^4(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4))}{(r^4+8r^3R+16rRs^2-5s^4+4r^2(4R^2+s^2))^2}$$

$$|X_{69}X_{88}|^2: (-9r^{10}-72r^9R-40rRs^8+s^{10}-9r^8(4R^2+7s^2)+144r^7(5R^3+2Rs^2)+r^6(576R^4+432R^2s^2+34s^4)-16r^5(144R^5-45R^3s^2+31Rs^4)+r^4(-4464R^4s^2+1276R^2s^4+30s^6)-96r^3(17R^3s^4+2Rs^6)+7r^2(72R^2s^6+s^8))/(-3r^4+3r^3R-19rRs^2+s^4+2r^2(30R^2+s^2))^2$$

$$|X_{69}X_{89}|^2: - \left((4(9r^{10}+126r^9R-12r^3R^3s^4+10rRs^8-s^{10}+9r^8(73R^2+7s^2)+36r^7(43R^3+4Rs^2)+r^6(1584R^4-27R^2s^2-130s^4)+8r^5(72R^5-90R^3s^2-19Rs^4)+r^4(-612R^4s^2-313R^2s^4+66s^6)+r^2(99R^2s^6-7s^8))) / (6r^4+21r^3R-5rRs^2+2s^4-4r^2(3R^2+2s^2))^2 \right)$$

$$|X_{69}X_{99}|^2: \frac{64r^4s^4(2r^2+8rR+9R^2-2s^2)}{(r^2+4rR-s^2)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}$$

$$|X_{69}X_{141}|^2: - \frac{r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+9s^2)+8r^3(8R^3+3Rs^2)+r^2(60R^2s^2-9s^4)}{4(r^2+4rR-s^2)^2}$$

$$|X_{69}X_{142}|^2: - \frac{1}{4(r+4R)^2(r^2+4rR-s^2)^2} (r^8+20r^7R-36R^2s^6-24rRs^4(-20R^2+s^2)+128r^5R(5R^2+s^2)+r^6(160R^2+11s^2)+r^4(1280R^4+588R^2s^2-9s^4)+4r^3(256R^5+344R^3s^2-15Rs^4)+r^2(1472R^4s^2+24R^2s^4-3s^6))$$

$$|X_{69}X_{145}|^2: \frac{4(3r^6+20r^5R-20rRs^4+s^6+r^4(16R^2-9s^2)-16r^3R(4R^2+s^2)+r^2(68R^2s^2+5s^4))}{(r^2+4rR-s^2)^2}$$

$$|X_{69}X_{190}|^2: - \frac{16r^4(r^6+20r^5R-64R^4s^2+3s^6+32r^3R(20R^2+s^2)+5r^4(32R^2+s^2)+r^2(1280R^4+12R^2s^2-9s^4)+4r(256R^5-40R^3s^2-9Rs^4))}{(3r^4+24r^3R-16rRs^2+s^4+r^2(48R^2-4s^2))^2}$$

$$|X_{69}X_{192}|^2: - \frac{1}{(r^4+8r^3R+16r^2R^2-s^4)^2} 4(r^{10}+20r^9R+640r^7R^3+20rRs^8-s^{10}+r^8(160R^2+3s^2)+2r^6(640R^4-90R^2s^2+s^4)+8r^5(128R^5-84R^3s^2+7Rs^4)-2r^4(288R^4s^2-140R^2s^4+s^6)+32r^3(11R^3s^4-Rs^6)-3r^2(28R^2s^6+s^8))$$

$$\begin{aligned}
& |X_{69}X_{194}|^2: \\
& - \left((4 (r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} - r^2 s^{10} (228 R^2 + 5 s^2) + r^{12} (336 R^2 + 5 s^2) + 8 \right. \\
& \quad r^3 R s^8 (64 R^2 + 9 s^2) + 8 r^{11} (280 R^3 + 9 R s^2) + \\
& \quad r^4 s^6 (1408 R^4 - 448 R^2 s^2 - 9 s^4) + r^{10} (8960 R^4 + 348 R^2 s^2 + 9 s^4) + \\
& \quad 4 r^9 (5376 R^5 + 112 R^3 s^2 + 9 R s^4) + r^8 (28672 R^6 - 1152 R^4 s^2 - 304 R^2 s^4 + 5 s^6) + \\
& \quad 16 r^7 (1024 R^7 - 192 R^5 s^2 - 140 R^3 s^4 - R s^6) - \\
& \quad \left. r^6 (1024 R^6 s^2 + 5632 R^4 s^4 - 488 R^2 s^6 + 5 s^8) + r^5 (-6144 R^5 s^4 + 2112 R^3 s^6 + 36 R s^8) \right) / \\
& \quad (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4))^2 \\
& |X_{69}X_{200}|^2: \\
& \frac{r^2 (r^6 + 16 r^5 R + r^4 (80 R^2 - 9 s^2) + 8 r^3 (8 R^3 - 3 R s^2) + (-8 R^2 s + s^3)^2 + r^2 (-512 R^4 + 16 R^2 s^2 + 7 s^4) - 8 r (128 R^5 - 40 R^3 s^2 + 3 R s^4))}{(r-2R)^2 (r^2 + 4 r R - s^2)^2} \\
& |X_{69}X_{210}|^2: \\
& \frac{-3 r^7 - 52 r^6 R - r s^6 + R s^6 + r^5 (-336 R^2 + 5 s^2) + r^4 (-960 R^3 + 25 R s^2) - r^3 (1024 R^4 - 80 R^2 s^2 + s^4) + r^2 (-192 R^3 s^2 + 26 R s^4)}{9 R (r^2 + 4 r R - s^2)^2} \\
& |X_{69}X_{213}|^2: \\
& (-r^{14} - 28 r^{13} R - 20 r R s^{12} + s^{14} + 8 r^3 R s^8 (56 R^2 - 13 s^2) + \\
& \quad 9 r^2 s^{10} (4 R^2 + s^2) - 3 r^{12} (112 R^2 + 3 s^2) - 56 r^{11} (40 R^3 + 3 R s^2) + \\
& \quad r^4 s^6 (384 R^4 + 240 R^2 s^2 - 11 s^4) + r^{10} (-8960 R^4 - 1308 R^2 s^2 + 11 s^4) - \\
& \quad 4 r^9 (5376 R^5 + 1392 R^3 s^2 - 25 R s^4) + r^8 (-28672 R^6 - 14208 R^4 s^2 + 224 R^2 s^4 + 19 s^6) - \\
& \quad 16 r^7 (1024 R^7 + 1344 R^5 s^2 + 32 R^3 s^4 - 17 R s^6) - \\
& \quad \left. r^6 (15360 R^6 s^2 + 3328 R^4 s^4 - 1144 R^2 s^6 + 19 s^8) - 4 r^5 (1280 R^5 s^4 - 432 R^3 s^6 + 13 R s^8) \right) / \\
& \quad (r^6 + 12 r^5 R - r^2 s^4 - 8 r R s^4 + s^6 + r^4 (48 R^2 - s^2) + r^3 (64 R^3 - 4 R s^2))^2 \\
& |X_{69}X_{238}|^2: \\
& - \left((3 r^{10} + 64 r^9 R + 32 r R s^8 - s^{10} + r^8 (544 R^2 + 71 s^2) + 144 r^7 (16 R^3 + 5 R s^2) + 2 r^6 \right. \\
& \quad (2432 R^4 + 1296 R^2 s^2 - 63 s^4) + 32 r^5 (128 R^5 + 136 R^3 s^2 - 25 R s^4) + \\
& \quad 2 r^4 (1920 R^4 s^2 - 560 R^2 s^4 + 29 s^6) + 16 r^3 (16 R^3 s^4 + 7 R s^6) - r^2 (288 R^2 s^6 + 5 s^8) \left. \right) / \\
& \quad (3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2))^2 \\
& |X_{69}X_{239}|^2: \\
& - \left((4 (r^{10} + 20 r^9 R + 28 r R s^8 - s^{10} + 128 r^7 R (5 R^2 + s^2) + 32 r^3 R s^4 (7 R^2 + s^2) + r^8 \right. \\
& \quad (160 R^2 + 11 s^2) + 2 r^6 (640 R^4 + 294 R^2 s^2 - 15 s^4) + 16 r^5 (64 R^5 + 86 R^3 s^2 - 13 R s^4) + \\
& \quad 2 r^4 (736 R^4 s^2 - 148 R^2 s^4 + 11 s^6) - r^2 (212 R^2 s^6 + 3 s^8) \left. \right) / \\
& \quad (3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2))^2 \\
& |X_{69}X_{244}|^2: \\
& (-3 r^{10} - 16 r^9 R - 40 r R s^8 + s^{10} + r^8 (80 R^2 - 7 s^2) + \\
& \quad 8 r^7 (72 R^3 + 17 R s^2) + r^6 (512 R^4 - 384 R^2 s^2 - 2 s^4) - 8 r^5 (128 R^5 + 128 R^3 s^2 + 9 R s^4) + \\
& \quad r^4 (-3008 R^4 s^2 + 1008 R^2 s^4 + 6 s^6) - 8 r^3 (232 R^3 s^4 + 17 R s^6) + r^2 (512 R^2 s^6 + 5 s^8) \left. \right) / \\
& \quad (-r^4 + 10 r^3 R + 56 r^2 R^2 - 18 r R s^2 + s^4)^2 \\
& |X_{69}X_{304}|^2: \\
& - \frac{64 r^4 R s^4 (2 r^5 + 27 r^4 R - 16 R^3 s^2 + 3 R s^4 + 4 r^3 (34 R^2 - s^2) + r^2 (304 R^3 - 30 R s^2) + 2 r (128 R^4 - 36 R^2 s^2 + s^4))}{(r^6 + 12 r^5 R + 64 r^3 R^3 - 12 r R s^4 + s^6 + r^4 (48 R^2 - s^2) + r^2 (16 R^2 s^2 - s^4))^2} \\
& |X_{69}X_{306}|^2: \\
& - \frac{4 r^4 (r^6 + 16 r^5 R - 16 R^4 s^2 - 4 R^2 s^4 + s^6 + r^4 (100 R^2 + 7 s^2) + 16 r^3 (19 R^3 + 2 R s^2) + r^2 (448 R^4 + 48 R^2 s^2 - 9 s^4) + 16 r (16 R^5 + R^3 s^2 - R s^4))}{(3 r^4 + 18 r^3 R - 10 r R s^2 + s^4 + 4 r^2 (6 R^2 - s^2))^2} \\
& |X_{69}X_{312}|^2: \\
& - \frac{64 r^4 R (r^4 R - 4 R^3 s^2 + R s^4 + r^3 (12 R^2 - s^2) + r^2 (48 R^3 - 3 R s^2) + r (64 R^4 - 24 R^2 s^2 + s^4))}{(-r^4 + 4 r^3 R + 32 r^2 R^2 - 12 r R s^2 + s^4)^2} \\
& |X_{69}X_{319}|^2: \\
& - \frac{64 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^4 + 8 r^3 R - 16 r R s^2 + 3 s^4 + 4 r^2 (4 R^2 - s^2))^2}
\end{aligned}$$

$$|X_{69}X_{320}|^2: -\frac{64r^2Rs^4(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(3r^4+24r^3R-16rRs^2+s^4+r^2(48R^2-4s^2))^2}$$

$$|X_{69}X_{321}|^2: -\frac{16r^2R(r^6R-Rs^6+2r^5(6R^2-s^2)+3r^4(16R^3-5Rs^2)+4r^3(16R^4-18R^2s^2+s^4)+r^2(-68R^3s^2+27Rs^4)+r(20R^2s^4-2s^6))}{(r^4+2r^3R-8r^2R^2+6rRs^2-s^4)^2}$$

$$|X_{69}X_{345}|^2: -\frac{16r^4(r^6+16r^5R-16R^4s^2-4R^2s^4+s^6+r^4(100R^2+7s^2)+16r^3(19R^3+2Rs^2)+r^2(448R^4+48R^2s^2-9s^4)+16r(16R^5+R^3s^2-Rs^4))}{(5r^4+28r^3R-12rRs^2+s^4+r^2(32R^2-6s^2))^2}$$

$$|X_{69}X_{346}|^2: -\frac{4r^4(r^6+20r^5R-64R^4s^2+3s^6+32r^3R(20R^2+s^2)+5r^4(32R^2+s^2)+r^2(1280R^4+12R^2s^2-9s^4)+4r(256R^5-40R^3s^2-9Rs^4))}{(2r^4+16r^3R-12rRs^2+s^4+r^2(32R^2-3s^2))^2}$$

$$|X_{69}X_{350}|^2: \frac{64r^2Rs^4(r^7+12r^6R+22r^2Rs^4+Rs^6+r^5(48R^2+s^2)+r^4(64R^3-31Rs^2)-r^3(32R^2s^2+s^4)-r(16R^2s^4+s^6))}{(r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+16r^3(4R^3-Rs^2)-r^2(80R^2s^2+s^4))^2}$$

$$|X_{72}X_{75}|^2: -\frac{r^2(2r^5+27r^4R-16R^3s^2-5Rs^4+4r^3(34R^2+s^2)+r^2(304R^3+22Rs^2)+2r(128R^4+4R^2s^2+s^4))}{R(r^2+4rRs^2)^2}$$

$$|X_{72}X_{76}|^2: -\left((r^2(2r^9+43r^8R-16R^3s^6+3Rs^8+8r^7(48R^2+s^2)+4r^6(456R^3+17Rs^2)+4r^5(1216R^4+12R^2s^2+3s^4)+2r^4(3456R^5-488R^3s^2+5Rs^4)+8r^3(512R^6-368R^4s^2+12R^2s^4+s^6)-4r^2(576R^5s^2-128R^3s^4+3Rs^6)+2r(192R^4s^4-40R^2s^6+s^8)))\right)/\left(R(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2\right)$$

$$|X_{72}X_{78}|^2: -\frac{r^2(r^3+5r^2R+6rR^2-R^3-rs^2)}{(r-R)^2R}$$

$$|X_{72}X_{79}|^2: \frac{-8r^5-62r^4R-183r^3R^2+9R^3s^2+6r^2R(-42R^2+s^2)-9r(16R^4-3R^2s^2)}{R(2r+3R)^2}$$

$$|X_{72}X_{80}|^2: -\frac{4r^4+5r^3R-12r^2R^2-16rR^3+rRs^2+R^2s^2}{2rR-R^2}$$

$$|X_{72}X_{81}|^2: \frac{-r^7-5r^6R-9r^2Rs^4+Rs^6+r^5(-6R^2+3s^2)+r^4(R^3+13Rs^2)+r^3(20R^2s^2-3s^4)+r(-16R^2s^4+s^6)}{R(r^2+rRs^2)^2}$$

$$|X_{72}X_{83}|^2: (-30r^{11}-611r^{10}R+16Rs^{10}+20r^8s^8(-24R^2+s^2)+r^9(-5120R^2+76s^2)-4r^8(5640R^3-383Rs^2)-4r^7(13760R^4-2892R^2s^2+37s^4)+r^6(-70400R^5+41296R^3s^2-2154Rs^4)-16r^5(2304R^6-4376R^4s^2+736R^2s^4-9s^6)+12r^4(3776R^5s^2-2240R^3s^4+133Rs^6)+r^3(-21376R^4s^4+5104R^2s^6-94s^8)+r^2(4752R^3s^6-491Rs^8))/\left(R(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2\right)$$

$$|X_{72}X_{85}|^2: \frac{1}{R(r^2+8rRs^2+16R^2+s^2)^2}(-2r^7-43r^6R+256R^5s^2-38r^4R(48R^2+s^2)-4r^5(96R^2+s^2)+16rR^2(-256R^4+40R^2s^2+s^4)-2r^3(2432R^4+40R^2s^2+s^4)+r^2(-6912R^5+176R^3s^2+5Rs^4))$$

$$|X_{72}X_{86}|^2: -\frac{2r^7+27r^6R-16Rs^6+8r^5(17R^2+2s^2)+2r^4(152R^3+75Rs^2)+r^3(256R^4+456R^2s^2+26s^4)+r^2(496R^3s^2+123Rs^4)+4r(56R^2s^4-5s^6)}{R(r^2+4rRs^2+5s^2)^2}$$

$$|X_{72}X_{88}|^2: \frac{-9r^7+81r^6R+Rs^6+3r^5(42R^2+s^2)-3r^4(405R^3+29Rs^2)+r^3(-2304R^4+384R^2s^2+5s^4)+r^2(528R^3s^2-35Rs^4)+r(-40R^2s^4+s^6)}{R(3r^2-15rRs^2)^2}$$

$$|X_{72}X_{89}|^2: -\frac{36r^7-54r^6R+4Rs^6+12r^5(24R^2+5s^2)+3r^4(99R^3+8Rs^2)-2r^3(288R^4+3R^2s^2+14s^4)-2r^2(174R^3s^2+7Rs^4)+r(-40R^2s^4+4s^6)}{R(-6r^2+3rR+2s^2)^2}$$

$$|X_{72}X_{99}|^2: -\frac{r^2(2r^5+27r^4R-16R^3s^2+3Rs^4+4r^3(34R^2-3s^2)+r^2(304R^3-82Rs^2)+2r(128R^4-76R^2s^2+9s^4))}{R(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}$$

$$\begin{aligned}
|X_{72}X_{141}|^2 &= \frac{-6r^7 - 77r^6R + Rs^6 + 14r^5(-26R^2 + s^2) + r^4(-752R^3 + 119Rs^2) - 2r^3(288R^4 - 156R^2s^2 + 5s^4) + r^2(228R^3s^2 - 43Rs^4) + r(-28R^2s^4 + 2s^6)}{4R(r^2 + 4rR - s^2)^2} \\
|X_{72}X_{142}|^2 &= \frac{-6r^5 - 77r^4R + 36R^3s^2 + r^3(-364R^2 + 2s^2) + r^2(-752R^3 + 23Rs^2) - 72r(8R^4 - R^2s^2)}{4R(r + 4R)^2} \\
|X_{72}X_{145}|^2 &= -7r^2 - 64rR + 4s^2 + \frac{2rs^2}{R} \\
|X_{72}X_{190}|^2 &= -\frac{r^2(6r^5 + 67r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(66R^2 - 5s^2) + r^2(432R^3 - 74Rs^2) + r(256R^4 - 88R^2s^2 + 6s^4))}{R(-3r^2 - 12rR + s^2)^2} \\
|X_{72}X_{192}|^2 &= \frac{r^6R - 7r^2Rs^4 + 4Rs^6 + 4r^3s^2(-6R^2 + s^2) + 2r^5(4R^2 + s^2) + 2r^4(8R^3 - 5Rs^2) + r(-64R^2s^4 + 2s^6)}{R(r^2 + 4rR + s^2)^2} \\
|X_{72}X_{194}|^2 &= \frac{(r^{10}R + 4Rs^{10} + 2rs^8(-48R^2 + s^2) + 24r^8R(4R^2 + s^2) + 2r^9(8R^2 + s^2) + 8r^7(32R^4 + 18R^2s^2 + s^4) + 8r^3s^4(-128R^4 + 22R^2s^2 + s^4) + r^6(256R^5 + 512R^3s^2 + 6Rs^4) + 4r^5(192R^4s^2 - 28R^2s^4 + 3s^6) - 4r^4(72R^3s^4 + 13Rs^6) + r^2(576R^3s^6 - 31Rs^8))}{R(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2} \\
|X_{72}X_{200}|^2 &= -\frac{r^2(r^3 + 2r^2R - 4R^3 - r s^2 + Rs^2)}{(r - 2R)^2R} \\
|X_{72}X_{210}|^2 &= \frac{-6r^3 - 19r^2R + Rs^2 + 2r(-8R^2 + s^2)}{9R} \\
|X_{72}X_{213}|^2 &= -\frac{(r^3 + 8r^2R + 16rR^2 - r s^2 - Rs^2)(r^4 + 6r^3R + 8r^2R^2 + 2rRs^2 - s^4)^2}{R(r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2} \\
|X_{72}X_{238}|^2 &= -\frac{(-3r^2 - 8rRs^2)^2(r^3 + 8r^2R + 16rR^2 - r s^2 - Rs^2)}{R(-3r^2 - 12rR + s^2)^2} \\
|X_{72}X_{239}|^2 &= \frac{-12r^7 - 151r^6R + 4Rs^6 + r^5(-696R^2 + 10s^2) - 2r^4(696R^3 - 67Rs^2) - 8r^3(128R^4 - 65R^2s^2 + s^4) + r^2(576R^3s^2 - 47Rs^4) + r(-96R^2s^4 + 2s^6)}{R(-3r^2 - 12rR + s^2)^2} \\
|X_{72}X_{244}|^2 &= \frac{-r^7 + 34r^6R + Rs^6 - r^5(184R^2 + s^2) - 3r^4R(532R^2 + s^2) + r^3(-2304R^4 + 424R^2s^2 + s^4) + 12r^2(44R^3s^2 - 3Rs^4) + r(-40R^2s^4 + s^6)}{R(r^2 - 14rR + s^2)^2} \\
|X_{72}X_{304}|^2 &= -\frac{r^2(r^2 + 4rR + s^2)^2(2r^5 + 27r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(34R^2 - s^2) + r^2(304R^3 - 30Rs^2) + 2r(128R^4 - 36R^2s^2 + s^4))}{R(r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2} \\
|X_{72}X_{306}|^2 &= -\frac{r^2(12r^5 + 103r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(83R^2 - 4s^2) + 14r^2(34R^3 - 5Rs^2) + 4r(64R^4 - 21R^2s^2 + s^4))}{R(-3r^2 - 6rR + s^2)^2} \\
|X_{72}X_{312}|^2 &= -\frac{r^2(2r^5 - 13r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(-8R^2 + s^2) + 2r^2(64R^3 - 5Rs^2) + 2r(128R^4 - 32R^2s^2 + s^4))}{R(r^2 - 8rR + s^2)^2} \\
|X_{72}X_{319}|^2 &= -\frac{r^2(2r^5 + 27r^4R - 16R^3s^2 + 3Rs^4 + 4r^3(34R^2 - 3s^2) + r^2(304R^3 - 82Rs^2) + 2r(128R^4 - 76R^2s^2 + 9s^4))}{R(r^2 + 4rR - 3s^2)^2} \\
|X_{72}X_{320}|^2 &= -\frac{r^2(18r^5 + 243r^4R - 144R^3s^2 + 11Rs^4 + 12r^3(102R^2 - s^2) + 114r^2(24R^3 - Rs^2) + 2r(1152R^4 - 204R^2s^2 + s^4))}{R(-3r^2 - 12rR + s^2)^2} \\
|X_{72}X_{321}|^2 &= -\frac{r^2(2r - R)(r^2 + 2rR + s^2)^2}{R(r^2 - 2rR + s^2)^2} \\
|X_{72}X_{345}|^2 &= -\frac{r^2(30r^5 + 219r^4R - 16R^3s^2 + 3Rs^4 + 36r^3(16R^2 - s^2) + 10r^2(64R^3 - 11Rs^2) + r(256R^4 - 96R^2s^2 + 6s^4))}{R(-5r^2 - 8rR + s^2)^2} \\
|X_{72}X_{346}|^2 &= -\frac{r^2(4r^5 + 48r^4R - 16R^3s^2 + 3Rs^4 + 2r^3(104R^2 - 5s^2) + 8r^2(48R^3 - 7Rs^2) + 4r(64R^4 - 20R^2s^2 + s^4))}{R(-2r^2 - 8rR + s^2)^2} \\
|X_{72}X_{350}|^2 &= -\left((r^2(2r^9 + 43r^8R - 144R^3s^6 + 11Rs^8 + 8r^7(48R^2 + s^2) + 4r^6(456R^3 + 11Rs^2) + 4r^5(1216R^4 - 76R^2s^2 + 3s^4) + r^4(6912R^5 - 2896R^3s^2 - 30Rs^4) + 8r^3(512R^6 - 944R^4s^2 + 20R^2s^4 + s^6) - 4r^2(1600R^5s^2 - 496R^3s^4 + 5Rs^6) + 2r(1344R^4s^4 - 152R^2s^6 + s^8))) / (R(r^4 + 8r^3R - 16rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2)\right) \\
|X_{75}X_{76}|^2 &= -\frac{64r^2R^2s^4(3r^6 + 40r^5R + 24rRs^4 - s^6 + r^4(176R^2 + 5s^2) + 64r^3(4R^3 - Rs^2) + r^2(-144R^2s^2 + s^4))}{(r^6 + 12r^5R - 4rRs^4 + s^6 + 8r^3R(8R^2 + s^2) + 3r^4(16R^2 + s^2) + r^2(-16R^2s^2 + 3s^4))^2}
\end{aligned}$$

$$\begin{aligned}
& |X_{75}X_{78}|^2: \\
& \frac{r^2 \left(r^6 + 12 r^5 R + 3 r^4 (16 R^2 + s^2) + 16 r^3 (3 R^3 + 2 R s^2) + (4 R^2 s + s^3)^2 + r^2 (-128 R^4 - 24 R^2 s^2 + 3 s^4) - 4 r (64 R^5 + 28 R^3 s^2 + 3 R s^4) \right)}{(r-R)^2 (r^2 + 4 r R + s^2)^2} \\
& |X_{75}X_{79}|^2: \\
& \frac{R (2 r^7 + 25 r^6 R - 165 r^2 R s^4 + 9 R s^6 + 2 r^5 (52 R^2 + 11 s^2) + r^4 (144 R^3 + 43 R s^2) + 30 r^3 (4 R^2 s^2 - 3 s^4) - 18 r (8 R^2 s^4 - s^6))}{(2 r + 3 R)^2 (r^2 + 4 r R + s^2)^2} \\
& |X_{75}X_{80}|^2: \\
& - \frac{R (9 r^6 + 72 r^5 R - 72 r^3 R s^2 + 11 r^2 s^4 - 16 r R s^4 + s^6 + 9 r^4 (16 R^2 - 5 s^2))}{(2 r - R) (r^2 + 4 r R + s^2)^2} \\
& |X_{75}X_{81}|^2: \\
& - \frac{1}{(r^4 + 5 r^3 R + 4 r^2 R^2 - 3 r R s^2 - s^4)^2} \left(r^{10} + 16 r^9 R + 16 r R s^8 - s^{10} - 8 r^7 R (-38 R^2 + s^2) + r^8 (100 R^2 + 3 s^2) + \right. \\
& \quad 2 r^6 (224 R^4 - 40 R^2 s^2 + s^4) + 16 r^5 (16 R^5 - 7 R^3 s^2 + 3 R s^4) - \\
& \quad \left. 2 r^4 (8 R^4 s^2 - 66 R^2 s^4 + s^6) + 8 r^3 (16 R^3 s^4 - 5 R s^6) - r^2 (8 R^2 s^6 + 3 s^8) \right) \\
& |X_{75}X_{83}|^2: \\
& - \left((16 (r^{14} + 28 r^{13} R + 32 r R s^{12} - s^{14} + 56 r^3 R s^8 (40 R^2 - s^2) + r^{12} (336 R^2 + s^2) - r^2 \right. \\
& \quad s^{10} (368 R^2 + s^2) + 32 r^{11} (70 R^3 - R s^2) + r^{10} (8960 R^4 - 772 R^2 s^2 - 3 s^4) + \\
& \quad 64 r^9 R (336 R^4 - 93 R^2 s^2 + s^4) + 3 r^4 s^6 (-2752 R^4 + 356 R^2 s^2 + s^4) + \\
& \quad r^8 (28 672 R^6 - 21 632 R^4 s^2 + 1492 R^2 s^4 - 3 s^6) + \\
& \quad 8 r^7 (2048 R^7 - 4736 R^5 s^2 + 1160 R^3 s^4 - 21 R s^6) + \\
& \quad r^6 (-25 600 R^6 s^2 + 22 848 R^4 s^4 - 1852 R^2 s^6 + 3 s^8) + \\
& \quad \left. 4 r^5 (4736 R^5 s^4 - 1792 R^3 s^6 + 33 R s^8) \right) / \\
& \quad \left(5 r^6 + 60 r^5 R - 20 r R s^4 + 5 s^6 + r^4 (240 R^2 - s^2) + 8 r^3 (40 R^3 - 3 R s^2) - r^2 (80 R^2 s^2 + s^4) \right)^2 \\
& |X_{75}X_{85}|^2: \\
& - \frac{256 R^3 s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^4 + 12 r^3 R + 16 R^2 s^2 + s^4 + 2 r^2 (24 R^2 + s^2) + 4 r (16 R^3 + 3 R s^2))^2} \\
& |X_{75}X_{86}|^2: \\
& \frac{16 s^4 (r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2))}{(r^4 + 8 r^3 R + 24 r R s^2 + 5 s^4 + 2 r^2 (8 R^2 + 3 s^2))^2} \\
& |X_{75}X_{88}|^2: \\
& (-9 r^{10} - 72 r^9 R - 40 r R s^8 + s^{10} - 9 r^8 (4 R^2 + 3 s^2) + \\
& \quad 72 r^7 (10 R^3 + 3 R s^2) + 2 r^6 (288 R^4 - 648 R^2 s^2 - 13 s^4) - 16 r^5 (144 R^5 + 27 R^3 s^2 - 8 R s^4) + \\
& \quad r^4 (4752 R^4 s^2 + 508 R^2 s^4 - 6 s^6) - 24 r^3 (124 R^3 s^4 + 3 R s^6) + 3 r^2 (184 R^2 s^6 + s^8)) / \\
& \quad (3 r^4 - 3 r^3 R - 11 r R s^2 + s^4 + r^2 (-60 R^2 + 4 s^2))^2 \\
& |X_{75}X_{89}|^2: \\
& - \left((4 (9 r^{10} + 126 r^9 R + 10 r R s^8 - s^{10} + 9 r^8 (73 R^2 + 3 s^2) + 36 r^7 (43 R^3 - 3 R s^2) + r^6 \right. \\
& \quad (1584 R^4 - 243 R^2 s^2 + 26 s^4) + 8 r^5 (72 R^5 + 54 R^3 s^2 + 23 R s^4) + \\
& \quad r^4 (540 R^4 s^2 + 71 R^2 s^4 + 6 s^6) + 12 r^3 (25 R^3 s^4 - 7 R s^6) + r^2 (75 R^2 s^6 - 3 s^8)) / \\
& \quad \left. (6 r^4 + 21 r^3 R - 11 r R s^2 - 2 s^4 + 4 r^2 (-3 R^2 + s^2))^2 \right) \\
& |X_{75}X_{99}|^2: \\
& - \frac{64 r^2 R s^4 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(r^2 + 4 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))} \\
& |X_{75}X_{141}|^2: \\
& \frac{1}{4 (r^4 + 8 r^3 R + 16 r^2 R^2 - s^4)^2} \\
& (-r^{10} - 20 r^9 R - 36 r R s^8 + s^{10} + 5 r^8 (-32 R^2 + s^2) - 128 r^7 (5 R^3 - R s^2) + \\
& \quad r^6 (-1280 R^4 + 948 R^2 s^2 + 6 s^4) - 8 r^5 (128 R^5 - 340 R^3 s^2 + 21 R s^4) + \\
& \quad 2 r^4 (1312 R^4 s^2 - 636 R^2 s^4 - 3 s^6) - 32 r^3 (63 R^3 s^4 - 5 R s^6) + r^2 (436 R^2 s^6 - 5 s^8)) \\
& |X_{75}X_{142}|^2: \\
& \frac{1}{4 (r + 4 R)^2 (r^2 + 4 r R + s^2)^2} \\
& (-r^8 - 20 r^7 R + 36 R^2 s^6 + r^6 (-160 R^2 + s^2) + 24 r R s^4 (-28 R^2 + s^2) + \\
& \quad 64 r^5 R (-10 R^2 + s^2) + r^4 (-1280 R^4 + 564 R^2 s^2 + 5 s^4) - \\
& \quad 4 r^3 (256 R^5 - 424 R^3 s^2 + 5 R s^4) + r^2 (1600 R^4 s^2 - 328 R^2 s^4 + 3 s^6))
\end{aligned}$$

$$|X_{75}X_{145}|^2: \frac{4(3r^6+20r^5R-12rRr^4+s^6+16r^3R(-4R^2+s^2)+r^4(16R^2+7s^2)+r^2(-60R^2s^2+5s^4))}{(r^2+4rR+s^2)^2}$$

$$|X_{75}X_{190}|^2: - \left((16r^2(r^8+20r^7R+640r^5R^3+96rR^3s^4-4R^2s^6+r^6(160R^2+3s^2)+r^4(1280R^4-180R^2s^2+3s^4))+4r^3(256R^5-168R^3s^2+3R^3s^4)+r^2(-576R^4s^2+24R^2s^4+s^6)) \right) / (3r^4+24r^3R+8rRr^2-s^4+2r^2(24R^2+s^2))^2$$

$$|X_{75}X_{192}|^2: - \frac{4(r^6+12r^5R+20rRr^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5R^3s^2)-r^2(68R^2s^2+s^4))}{(r^2+4rR+s^2)^2}$$

$$|X_{75}X_{194}|^2: - \left((4(r^{14}+28r^{13}R+20rRr^{12}-s^{14}+8r^3Rr^8(16R^2+5s^2)-r^2s^{10}(68R^2+5s^2)+r^{12}(336R^2+5s^2)+8r^{11}(280R^3+9R^3s^2)+28r^9R(768R^4+16R^2s^2+s^4)-3r^4s^6(384R^4+32R^2s^2+3s^4)+r^{10}(8960R^4+348R^2s^2+9s^4)+r^8(28672R^6-1152R^4s^2-272R^2s^4+5s^6)+16r^7(1024R^7-192R^5s^2-68R^3s^4-3R^3s^6)-r^6(1024R^6s^2+312R^2s^6+5s^8)+4r^5(512R^5s^4-304R^3s^6-3R^3s^8))) \right) / (r^6+12r^5R-4rRr^4+s^6+8r^3R(8R^2+s^2)+3r^4(16R^2+s^2)+r^2(-16R^2s^2+3s^4))^2$$

$$|X_{75}X_{200}|^2: \frac{r^2(r^6+16r^5R+r^4(80R^2+3s^2)+8r^3(8R^3+5R^3s^2)+(8R^2s+s^3)^2-8rR(128R^4+24R^2s^2+s^4)+r^2(-512R^4-48R^2s^2+3s^4))}{(r-2R)^2(r^2+4rR+s^2)^2}$$

$$|X_{75}X_{210}|^2: \frac{-3r^7-52r^6R+r^5(48R^2+s^2)-3r^4(320R^3+13R^3s^2)+r^3(-1024R^4+144R^2s^2-5s^4)+2r^2(160R^3s^2+7R^3s^4)-r(32R^2s^4+s^6)}{9R(r^2+4rR+s^2)^2}$$

$$|X_{75}X_{213}|^2: - \left((r^{14}+28r^{13}R+8r^3Rr^{10}+20rRr^{12}-s^{14}-r^2s^{10}(68R^2+5s^2)+r^{12}(336R^2+5s^2)+8r^{11}(280R^3+9R^3s^2)+3r^4s^6(384R^4+32R^2s^2-3s^4)+r^{10}(8960R^4+348R^2s^2+9s^4)+4r^9(5376R^5+112R^3s^2+31R^3s^4)+r^8(28672R^6-1152R^4s^2+432R^2s^4+5s^6)+16r^7(1024R^7-192R^5s^2-20R^3s^4+7R^3s^6)-r^6(1024R^6s^2+3072R^4s^4-584R^2s^6+5s^8)+r^5(-2048R^5s^4+960R^3s^6+20R^3s^8)) \right) / (r^6+12r^5R-s^6+r^4(48R^2+s^2)+4r^3(16R^3+3R^3s^2)+r^2(32R^2s^2-s^4))^2$$

$$|X_{75}X_{238}|^2: - \left((3r^{10}+64r^9R+32rRr^8-s^{10}+r^8(544R^2+11s^2)+128r^7(18R^3-R^3s^2)+2r^6(2432R^4-912R^2s^2+7s^4)+32r^5(128R^5-176R^3s^2+7R^3s^4)+r^4(-4352R^4s^2+1120R^2s^4+6s^6)+64r^3(28R^3s^4-R^3s^6)-r^2(352R^2s^6+s^8)) \right) / (3r^4+24r^3R+8rRr^2-s^4+2r^2(24R^2+s^2))^2$$

$$|X_{75}X_{239}|^2: - \left((4(r^{10}+20r^9R+640r^7R^3+20rRr^8-s^{10}+r^8(160R^2+3s^2)+2r^6(640R^4-90R^2s^2+s^4)+8r^5(128R^5-84R^3s^2+7R^3s^4)-2r^4(288R^4s^2-140R^2s^4+s^6)+32r^3(11R^3s^4-R^3s^6)-3r^2(28R^2s^6+s^8))) \right) / (3r^4+24r^3R+8rRr^2-s^4+2r^2(24R^2+s^2))^2$$

$$|X_{75}X_{244}|^2: (-3r^{10}-16r^9R-40rRr^8+s^{10}+r^8(80R^2-11s^2)-8r^3Rr^4(344R^2+s^2)+8r^7(72R^3+5R^3s^2)+2r^6(256R^4-288R^2s^2-7s^4)+r^5(-1024R^5+1024R^3s^2+88R^3s^4)+2r^4(1568R^4s^2-56R^2s^4-3s^6)+r^2(544R^2s^6+s^8)) / (r^4-10r^3R-10rRr^2+s^4+r^2(-56R^2+2s^2))^2$$

$$\begin{aligned}
|X_{75}X_{304}|^2 &: \frac{64 r^2 R^2 s^4 (r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2))}{(r^6 + 12 r^5 R + 4 r R s^4 - s^6 + 16 r^3 R (4 R^2 + s^2) + r^4 (48 R^2 + s^2) + r^2 (48 R^2 s^2 - s^4))^2} \\
|X_{75}X_{306}|^2 &: - \left((4 r^2 (r^8 + 16 r^7 R - 16 R^2 s^6 + r^6 (100 R^2 - s^2) + 16 r^5 (19 R^3 - 4 R s^2) + r^4 (448 R^4 - 368 R^2 s^2 - 5 s^4) + 16 r^3 (16 R^5 - 47 R^3 s^2 + 2 R s^4) + r^2 (-528 R^4 s^2 + 220 R^2 s^4 - 3 s^6) + 16 r (18 R^3 s^4 - R s^6)) / (3 r^4 + 18 r^3 R + 2 r R s^2 - s^4 + 2 r^2 (12 R^2 + s^2))^2 \right) \\
|X_{75}X_{312}|^2 &: - \frac{64 r^2 R^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^4 - 4 r^3 R - 4 r R s^2 + s^4 + r^2 (-32 R^2 + 2 s^2))^2} \\
|X_{75}X_{319}|^2 &: - \frac{256 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(r^4 + 8 r^3 R - 8 r R s^2 - 3 s^4 + 2 r^2 (8 R^2 - s^2))^2} \\
|X_{75}X_{320}|^2 &: - \frac{256 r^2 R s^4 (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2)}{(3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2))^2} \\
|X_{75}X_{321}|^2 &: - \frac{16 r^2 R^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^4 + 2 r^3 R + 2 r R s^2 + s^4 + r^2 (-8 R^2 + 2 s^2))^2} \\
|X_{75}X_{345}|^2 &: - \frac{16 r^2 (r + 2 R)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(5 r^4 + 28 r^3 R + 4 r R s^2 - s^4 + 4 r^2 (8 R^2 + s^2))^2} \\
|X_{75}X_{346}|^2 &: - \frac{4 r^2 (r + 4 R)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(2 r^4 + 16 r^3 R + 4 r R s^2 - s^4 + r^2 (32 R^2 + s^2))^2} \\
|X_{75}X_{350}|^2 &: - \frac{256 r^2 R^2 s^4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^6 + 12 r^5 R + 64 r^3 R^3 - 12 r R s^4 + s^6 + 3 r^4 (16 R^2 + s^2) + r^2 (-48 R^2 s^2 + 3 s^4))^2} \\
|X_{76}X_{78}|^2 &: \left(r^2 (r^{10} + 20 r^9 R + s^6 (-4 R^2 + s^2))^2 + 5 r^8 (32 R^2 + s^2) + 8 r^7 (78 R^3 + 5 R s^2) - 16 r^5 (32 R^5 + 31 R^3 s^2) + 2 r^6 (512 R^4 + 4 R^2 s^2 + 5 s^4) - 2 r^4 (2048 R^6 + 184 R^4 s^2 - 84 R^2 s^4 - 5 s^6) - 8 r^3 (512 R^7 - 304 R^5 s^2 + 22 R^3 s^4 + 5 R s^6) + r^2 (2304 R^6 s^2 - 864 R^4 s^4 + 56 R^2 s^6 + 5 s^8) - 4 r (96 R^5 s^4 - 44 R^3 s^6 + 5 R s^8) \right) / \left((r - R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \\
|X_{76}X_{79}|^2 &: \left(R (2 r^{11} + 41 r^{10} R - 518 r^4 R s^6 + 9 R s^{10} + 6 r^9 (56 R^2 - s^2) + 18 r s^8 (-12 R^2 + s^2) + r^8 (1376 R^3 - 243 R s^2) + 4 r^7 (704 R^4 - 498 R^2 s^2 - 3 s^4) + 6 r^6 (384 R^5 - 968 R^3 s^2 + 95 R s^4) + r^5 (-5376 R^4 s^2 + 2472 R^2 s^4 + 20 s^6) - 6 r^3 (384 R^4 s^4 - 252 R^2 s^6 - 7 s^8) + 3 r^2 (432 R^3 s^6 - 113 R s^8)) / \left((2 r + 3 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \\
|X_{76}X_{80}|^2 &: - \left((R (9 r^{10} + 144 r^9 R - 24 r R s^8 + s^{10} + 3 r^8 (288 R^2 + 7 s^2) + 72 r^7 (32 R^3 + 3 R s^2) + 2 r^6 (1152 R^4 + 360 R^2 s^2 + 5 s^4) + 8 r^5 (96 R^3 s^2 - 35 R s^4) - 6 r^4 (128 R^2 s^4 + s^6) - 8 r^3 (32 R^3 s^4 - 17 R s^6) + 3 r^2 (48 R^2 s^6 - s^8)) / \left((2 r - R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \right) \\
|X_{76}X_{81}|^2 &: \left(-r^{14} - 24 r^{13} R - 24 r R s^{12} + s^{14} + r^2 s^{10} (136 R^2 + 5 s^2) - r^{12} (244 R^2 + 5 s^2) - 8 r^3 R s^8 (8 R^2 + 7 s^2) - 8 r^{11} (170 R^3 + 7 R s^2) - 8 r^9 R (1088 R^4 + 10 R^2 s^2 + s^4) - r^{10} (4480 R^4 + 200 R^2 s^2 + 9 s^4) + r^8 (-9216 R^6 + 1168 R^4 s^2 + 360 R^2 s^4 - 5 s^6) - 16 r^7 (256 R^7 - 184 R^5 s^2 - 81 R^3 s^4 - 3 R s^6) + r^6 (2304 R^6 s^2 + 2208 R^4 s^4 - 544 R^2 s^6 + 5 s^8) + 8 r^5 (208 R^5 s^4 - 134 R^3 s^6 - R s^8) + r^4 (-1136 R^4 s^6 + 300 R^2 s^8 + 9 s^{10}) \right) / \left(r^6 + 9 r^5 R + 9 r R s^4 - s^6 + r^4 (24 R^2 + s^2) + 2 r^3 (8 R^3 - 7 R s^2) - r^2 (24 R^2 s^2 + s^4) \right)^2
\end{aligned}$$

$$\begin{aligned}
& |X_{76}X_{83}|^2: \\
& - \left(\left(16 (r^2 + 4 r R - s^2)^2 (r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} - r^2 s^{10} (228 R^2 + 5 s^2) + r^{12} \right. \right. \\
& \quad (336 R^2 + 5 s^2) + 8 r^3 R s^8 (64 R^2 + 9 s^2) + 8 r^{11} (280 R^3 + 9 R s^2) + \\
& \quad r^4 s^6 (1408 R^4 - 448 R^2 s^2 - 9 s^4) + r^{10} (8960 R^4 + 348 R^2 s^2 + 9 s^4) + \\
& \quad 4 r^9 (5376 R^5 + 112 R^3 s^2 + 9 R s^4) + r^8 (28672 R^6 - 1152 R^4 s^2 - 304 R^2 s^4 + 5 s^6) + \\
& \quad 16 r^7 (1024 R^7 - 192 R^5 s^2 - 140 R^3 s^4 - R s^6) - \\
& \quad \left. \left. r^6 (1024 R^6 s^2 + 5632 R^4 s^4 - 488 R^2 s^6 + 5 s^8) + r^5 (-6144 R^5 s^4 + 2112 R^3 s^6 + 36 R s^8) \right) \right) / \\
& \quad (5 r^8 + 80 r^7 R - 80 r R s^6 + 5 s^8 + 4 r^6 (120 R^2 + s^2) + 16 r^5 (80 R^3 - 3 R s^2) + \\
& \quad 2 r^4 (640 R^4 - 288 R^2 s^2 - s^4) - 16 r^3 (80 R^3 s^2 - 3 R s^4) + 4 r^2 (120 R^2 s^4 + s^6))^2) \\
& |X_{76}X_{85}|^2: \quad - \left((64 R^2 s^4 (r^8 + 20 r^7 R - 4 R^2 s^6 + r^6 (160 R^2 - s^2) + 16 r^5 (40 R^3 - 3 R s^2) + \right. \\
& \quad r^4 (1280 R^4 - 372 R^2 s^2 - 5 s^4) + 4 r^3 (256 R^5 - 232 R^3 s^2 + 13 R s^4) - \\
& \quad 3 r^2 (192 R^4 s^2 - 56 R^2 s^4 + s^6) + r (96 R^3 s^4 - 8 R s^6)) / \\
& \quad (r^6 + 16 r^5 R - 128 r R^3 s^2 + 16 R^2 s^4 + s^6 + 16 r^3 R (16 R^2 + s^2) + \\
& \quad \left. 3 r^4 (32 R^2 + s^2) + r^2 (256 R^4 - 16 R^2 s^2 + 3 s^4))^2 \right) \\
& |X_{76}X_{86}|^2: \quad (16 s^4 (r^{10} + 12 r^9 R - 20 r R s^8 + s^{10} + 16 r^7 R (-6 R^2 + s^2) + \\
& \quad r^8 (36 R^2 + 5 s^2) - 2 r^6 (352 R^4 + 2 R^2 s^2 - 5 s^4) - 8 r^5 (128 R^5 - 16 R^3 s^2 + 3 R s^4) + \\
& \quad r^4 (-448 R^4 s^2 + 268 R^2 s^4 + 10 s^6) + 16 r^3 (14 R^3 s^4 - 3 R s^6) + r^2 (52 R^2 s^6 + 5 s^8)) / \\
& \quad (r^6 + 12 r^5 R - 36 r R s^4 + 5 s^6 + r^4 (48 R^2 + 7 s^2) + 8 r^3 (8 R^3 + 5 R s^2) + r^2 (48 R^2 s^2 + 11 s^4))^2) \\
& |X_{76}X_{88}|^2: \quad (-9 r^{14} - 144 r^{13} R - 48 r R s^{12} + s^{14} + 5 r^2 s^{10} (168 R^2 + s^2) - \\
& \quad 9 r^{12} (84 R^2 + 5 s^2) - 8 r^3 R s^8 (788 R^2 + 19 s^2) - 72 r^{11} (10 R^3 + 3 R s^2) + \\
& \quad r^{10} (5760 R^4 + 216 R^2 s^2 - 89 s^4) + r^4 s^6 (16656 R^4 + 1420 R^2 s^2 + s^4) + \\
& \quad 16 r^9 (864 R^5 + 153 R^3 s^2 + 13 R s^4) + r^8 (-9216 R^6 + 8208 R^4 s^2 + 1416 R^2 s^4 - 85 s^6) - \\
& \quad 16 r^7 (2304 R^7 - 216 R^5 s^2 + 785 R^3 s^4 - 27 R s^6) + \\
& \quad r^6 (-52992 R^6 s^2 + 11680 R^4 s^4 - 35 s^8) + 16 r^5 (456 R^5 s^4 - 289 R^3 s^6 + 3 R s^8)) / \\
& \quad (3 r^6 + 9 r^5 R - 23 r R s^4 + s^6 + r^4 (-72 R^2 + 7 s^2) - 2 r^3 (120 R^3 + 23 R s^2) + r^2 (136 R^2 s^2 + 5 s^4))^2) \\
& |X_{76}X_{89}|^2: \\
& - \left((4 (9 r^{14} + 198 r^{13} R + 18 r R s^{12} - s^{14} + r^2 s^{10} (3 R^2 - 5 s^2) + 9 r^{12} (201 R^2 + 5 s^2) + \right. \\
& \quad 36 r^{11} (245 R^3 + 12 R s^2) - r^4 s^6 (-1068 R^4 + 235 R^2 s^2 + s^4) + \\
& \quad r^{10} (24480 R^4 + 1215 R^2 s^2 + 89 s^4) + r^9 (38016 R^5 - 504 R^3 s^2 + 86 R s^4) + \\
& \quad r^8 (29952 R^6 - 10260 R^4 s^2 - 2214 R^2 s^4 + 85 s^6) + \\
& \quad 16 r^7 (576 R^7 - 1458 R^5 s^2 - 133 R^3 s^4 - 21 R s^6) + \\
& \quad r^6 (-14400 R^6 s^2 - 712 R^4 s^4 + 2238 R^2 s^6 + 35 s^8) + \\
& \quad \left. \left. 2 r^5 (2640 R^5 s^4 + 716 R^3 s^6 - 87 R s^8) + r^3 (-644 R^3 s^8 + 32 R s^{10}) \right) \right) / \\
& \quad (6 r^6 + 45 r^5 R + 13 r R s^4 - 2 s^6 + 2 r^4 (36 R^2 + 5 s^2) - 2 r^3 (24 R^3 + 35 R s^2) + \\
& \quad r^2 (-8 R^2 s^2 + 2 s^4))^2) \\
& |X_{76}X_{99}|^2: \quad \frac{256 r^4 R^2 s^4}{(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2}
\end{aligned}$$

$|X_{76}X_{141}|^2:$

$$\begin{aligned} & \left(-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} - 3 r^2 s^{10} (-76 R^2 + s^2) + r^{12} (-336 R^2 + 3 s^2) + r^{11} \right. \\ & \quad \left(-2240 R^3 + 88 R s^2 \right) - r^4 s^6 (1408 R^4 + 64 R^2 s^2 + 15 s^4) + r^{10} (-8960 R^4 + 932 R^2 s^2 + 15 s^4) + \\ & \quad r^9 (-21504 R^5 + 4672 R^3 s^2 + 92 R s^4) + r^8 (-28672 R^6 + 11392 R^4 s^2 + 304 R^2 s^4 + 11 s^6) - 16 r^7 \\ & \quad (1024 R^7 - 704 R^5 s^2 - 140 R^3 s^4 + 3 R s^6) + r^6 (1024 R^6 s^2 + 7680 R^4 s^4 - 1256 R^2 s^6 - 11 s^8) + \\ & \quad \left. 4 r^5 (1536 R^5 s^4 - 784 R^3 s^6 + 23 R s^8) + r^3 (-512 R^3 s^8 + 88 R s^{10}) \right) / \\ & \left(4 (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4)) \right)^2 \end{aligned}$$

 $|X_{76}X_{142}|^2:$

$$\begin{aligned} & \left(-r^{12} - 28 r^{11} R + 36 R^2 s^{10} + 24 r R s^8 (-32 R^2 + s^2) - 8 r^9 R (280 R^2 + s^2) - r^{10} (336 R^2 + s^2) + \right. \\ & \quad r^2 s^6 (2944 R^4 - 384 R^2 s^2 + 3 s^4) + r^8 (-8960 R^4 - 28 R^2 s^2 + 6 s^4) - \\ & \quad 8 r^7 (2688 R^5 + 56 R^3 s^2 - 5 R s^4) + r^6 (-28672 R^6 - 3968 R^4 s^2 + 496 R^2 s^4 + 14 s^6) - \\ & \quad \left. 16 r^5 (1024 R^7 + 832 R^5 s^2 - 236 R^3 s^4 - R s^6) + \right. \\ & \quad \left. r^4 (-15360 R^6 s^2 + 8960 R^4 s^4 - 232 R^2 s^6 + 11 s^8) + 4 r^3 (768 R^5 s^4 + 304 R^3 s^6 + 5 R s^8) \right) / \\ & \left(4 (r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2)) \right)^2 \end{aligned}$$

 $|X_{76}X_{145}|^2:$

$$\begin{aligned} & \left(4 (3 r^{10} + 44 r^9 R - 28 r R s^8 + s^{10} + r^8 (224 R^2 + 13 s^2) + \right. \\ & \quad 8 r^7 (48 R^3 + 5 R s^2) + r^6 (-256 R^4 - 204 R^2 s^2 + 22 s^4) - 16 r^5 (64 R^5 + 14 R^3 s^2 + 5 R s^4) + \\ & \quad \left. 2 r^4 (800 R^4 s^2 + 196 R^2 s^4 + 9 s^6) - 8 r^3 (116 R^3 s^4 + 13 R s^6) + r^2 (244 R^2 s^6 + 7 s^8) \right) / \\ & \left(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2) \right)^2 \end{aligned}$$

 $|X_{76}X_{190}|^2:$

$$\begin{aligned} & - \left((16 r^4 (r^{10} + 28 r^9 R - 64 R^4 s^6 - 4 R^2 s^8 + s^{10} + 64 r^7 R (35 R^2 + s^2) + r^8 (336 R^2 + 5 s^2) + \right. \\ & \quad 2 r^6 (4480 R^4 + 94 R^2 s^2 + 5 s^4) + 8 r^5 (2688 R^5 - 104 R^3 s^2 + 3 R s^4) + 2 r^4 \\ & \quad (14336 R^6 - 3136 R^4 s^2 - 126 R^2 s^4 + 5 s^6) + 32 r^3 (512 R^7 - 416 R^5 s^2 - 16 R^3 s^4 - R s^6) + \\ & \quad \left. r^2 (-9216 R^6 s^2 + 1344 R^4 s^4 + 148 R^2 s^6 + 5 s^8) + 4 r (384 R^5 s^4 - 5 R s^8) \right) / \\ & \left(3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

 $|X_{76}X_{192}|^2:$

$$\begin{aligned} & - \left((4 (r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} + 56 r^3 R s^8 (24 R^2 + s^2) + 56 r^{11} R (40 R^2 + s^2) - \right. \\ & \quad 5 r^2 s^{10} (52 R^2 + s^2) + r^{12} (336 R^2 + 5 s^2) + r^{10} (8960 R^4 + 28 R^2 s^2 + 9 s^4) - \\ & \quad r^4 s^6 (4736 R^4 + 32 R^2 s^2 + 9 s^4) + 4 r^9 (5376 R^5 - 528 R^3 s^2 - 7 R s^4) + \\ & \quad r^8 (28672 R^6 - 11392 R^4 s^2 - 464 R^2 s^4 + 5 s^6) + \\ & \quad \left. 16 r^7 (1024 R^7 - 1472 R^5 s^2 + 40 R^3 s^4 - 7 R s^6) + \right. \\ & \quad \left. r^6 (-17408 R^6 s^2 + 8704 R^4 s^4 + 72 R^2 s^6 - 5 s^8) + 4 r^5 (2816 R^5 s^4 - 464 R^3 s^6 - 7 R s^8) \right) / \\ & \left(r^6 + 12 r^5 R - 4 r R s^4 + s^6 + 8 r^3 R (8 R^2 + s^2) + 3 r^4 (16 R^2 + s^2) + r^2 (-16 R^2 s^2 + 3 s^4) \right)^2 \end{aligned}$$

 $|X_{76}X_{194}|^2:$

$$\begin{aligned} & - \left((4 (r^{10} + 20 r^9 R + 20 r R s^8 - s^{10} + 16 r^3 R s^4 (-14 R^2 + s^2) + 16 r^7 R (40 R^2 + s^2) + \right. \\ & \quad r^8 (160 R^2 + 3 s^2) + 2 r^6 (640 R^4 + 6 R^2 s^2 + s^4) + 8 r^5 (128 R^5 + 12 R^3 s^2 - R s^4) + \\ & \quad \left. r^4 (448 R^4 s^2 - 264 R^2 s^4 - 2 s^6) - r^2 (52 R^2 s^6 + 3 s^8) \right) / \\ & \left(r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2) \right)^2 \end{aligned}$$

$|X_{76}X_{200}|^2$:

$$\begin{aligned} & \left(r^2 \left(r^{10} + 24 r^9 R + s^6 (-8 R^2 + s^2)^2 + r^8 (224 R^2 + 5 s^2) + 8 r^7 (120 R^3 + 7 R s^2) - 16 r R s^4 \right. \right. \\ & \quad \left. \left(96 R^4 - 20 R^2 s^2 + s^4 \right) + 2 r^6 (640 R^4 + 32 R^2 s^2 + 5 s^4) - 8 r^5 (512 R^5 + 104 R^3 s^2 - 3 R s^4) - \right. \\ & \quad \left. 2 r^4 (8192 R^6 + 608 R^4 s^2 - 40 R^2 s^4 - 5 s^6) - 8 r^3 (2048 R^7 - 704 R^5 s^2 + 24 R^3 s^4 + 3 R s^6) + \right. \\ & \quad \left. r^2 (9216 R^6 s^2 - 1152 R^4 s^4 - 32 R^2 s^6 + 5 s^8) \right) \Bigg) / \\ & \left((r - 2 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$|X_{76}X_{210}|^2$:

$$\begin{aligned} & - \left((3 r^{11} + 76 r^{10} R - R s^{10} + r s^8 (8 R^2 + s^2) + r^9 (800 R^2 + 13 s^2) + r^8 (4480 R^3 + 151 R s^2) + \right. \\ & \quad 2 r^7 (7040 R^4 + 188 R^2 s^2 + 11 s^4) + 4 r^6 (5888 R^5 - 308 R^3 s^2 + 15 R s^4) + \\ & \quad 2 r^5 (8192 R^6 - 2944 R^4 s^2 + 12 R^2 s^4 + 9 s^6) - 10 r^4 (512 R^5 s^2 + 16 R^3 s^4 + 3 R s^6) + \\ & \quad \left. r^3 (-512 R^4 s^4 - 56 R^2 s^6 + 7 s^8) + 16 r^2 (11 R^3 s^6 - R s^8) \right) / \\ & \left(9 R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$|X_{76}X_{213}|^2$:

$$\begin{aligned} & - \left((r^{18} + 36 r^{17} R + 28 r R s^{16} - s^{18} + 32 r^3 R s^{12} (5 R^2 + 4 s^2) - r^2 s^{14} (212 R^2 + 7 s^2) + \right. \\ & \quad r^{16} (576 R^2 + 7 s^2) + 16 r^{15} (336 R^3 + 11 R s^2) - 4 r^4 s^{10} (-656 R^4 + 206 R^2 s^2 + 5 s^4) + \\ & \quad 4 r^{14} (8064 R^4 + 475 R^2 s^2 + 5 s^4) + 8 r^5 R s^8 (128 R^4 + 244 R^2 s^2 + 27 s^4) + 8 r^{13} \\ & \quad (16 128 R^5 + 1444 R^3 s^2 + 41 R s^4) - 16 r^7 R s^4 (1536 R^6 + 2368 R^4 s^2 - 212 R^2 s^4 - 11 s^6) - \\ & \quad 4 r^6 s^6 (7936 R^6 - 1600 R^4 s^2 + 139 R^2 s^4 + 7 s^6) + \\ & \quad 4 r^{12} (86 016 R^6 + 10 960 R^4 s^2 + 466 R^2 s^4 + 7 s^6) + \\ & \quad 32 r^{11} (18 432 R^7 + 3424 R^5 s^2 + 89 R^3 s^4 + 9 R s^6) - \\ & \quad 2 r^8 s^2 (-57 344 R^8 + 35 840 R^6 s^2 + 7872 R^4 s^4 - 152 R^2 s^6 + 7 s^8) + \\ & \quad 2 r^{10} (294 912 R^8 + 92 672 R^6 s^2 - 6016 R^4 s^4 + 394 R^2 s^6 + 7 s^8) + \\ & \quad \left. 32 r^9 (8192 R^9 + 6400 R^7 s^2 - 1696 R^5 s^4 - 54 R^3 s^6 + 5 R s^8) \right) / \\ & \left(r^8 + 16 r^7 R + 256 r^4 R^4 + 12 r R s^6 - s^8 + 8 r^3 R s^2 (-8 R^2 + s^2) + \right. \\ & \quad \left. 2 r^6 (48 R^2 + s^2) + 4 r^5 (64 R^3 + 3 R s^2) - 2 r^2 (16 R^2 s^4 + s^6) \right)^2 \end{aligned}$$

$|X_{76}X_{238}|^2$:

$$\begin{aligned} & - \left((3 r^{14} + 88 r^{13} R + 40 r R s^{12} - s^{14} + 256 r^{11} R (30 R^2 + s^2) + 64 r^3 R s^8 (48 R^2 + s^2) - \right. \\ & \quad r^2 s^{10} (560 R^2 + 3 s^2) + r^{12} (1104 R^2 + 17 s^2) + r^4 s^6 (-2816 R^4 - 688 R^2 s^2 + 3 s^4) + \\ & \quad r^{10} (32 000 R^4 + 1488 R^2 s^2 + 39 s^4) + 8 r^9 (9984 R^5 + 576 R^3 s^2 + 23 R s^4) + \\ & \quad r^8 (110 592 R^6 + 11 008 R^4 s^2 - 1952 R^2 s^4 + 45 s^6) + \\ & \quad 64 r^7 (1024 R^7 + 384 R^5 s^2 - 248 R^3 s^4 - R s^6) + \\ & \quad r^6 (28 672 R^6 s^2 - 36 096 R^4 s^4 + 1632 R^2 s^6 + 25 s^8) - 8 r^5 (2816 R^5 s^4 - 832 R^3 s^6 + 7 R s^8) \Bigg) / \\ & \left(3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{239}|^2:$$

$$\begin{aligned} & - \left((4 (r^{14} + 28 r^{13} R + 36 r R s^{12} - s^{14} + r^{12} (336 R^2 + 5 s^2) - r^2 s^{10} (452 R^2 + 5 s^2) + 8 \right. \\ & \quad r^3 R s^8 (296 R^2 + 11 s^2) + 8 r^{11} (280 R^3 + 11 R s^2) - \\ & \quad r^4 s^6 (3712 R^4 + 416 R^2 s^2 + 9 s^4) + r^{10} (8960 R^4 + 668 R^2 s^2 + 9 s^4) + \\ & \quad 4 r^9 (5376 R^5 + 752 R^3 s^2 + 19 R s^4) + 16 r^7 R (1024 R^6 + 1088 R^4 s^2 - 216 R^2 s^4 + s^6) + \\ & \quad r^8 (28672 R^6 + 9088 R^4 s^2 - 208 R^2 s^4 + 5 s^6) + r^6 \\ & \quad \left. (15360 R^6 s^2 - 9728 R^4 s^4 + 520 R^2 s^6 - 5 s^8) + r^5 (-7168 R^5 s^4 + 1216 R^3 s^6 + 52 R s^8) \right) / \\ & \quad \left(3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{244}|^2:$$

$$\begin{aligned} & (-3 r^{14} - 40 r^{13} R - 48 r R s^{12} + s^{14} + r^2 s^{10} (848 R^2 + 3 s^2) - 8 r^3 R s^8 (824 R^2 + 11 s^2) - \\ & \quad r^{12} (96 R^2 + 17 s^2) + 8 r^{11} (120 R^3 - 7 R s^2) + r^{10} (6400 R^4 + 336 R^2 s^2 - 39 s^4) + \\ & \quad r^4 s^6 (20032 R^4 + 864 R^2 s^2 - 3 s^4) + 128 r^9 R (96 R^4 + 14 R^2 s^2 + s^4) + \\ & \quad r^8 (3136 R^4 s^2 + 128 R^2 s^4 - 45 s^6) - 16 r^7 (1024 R^7 + 480 R^5 s^2 + 304 R^3 s^4 - 17 R s^6) - \\ & \quad r^6 (39936 R^6 s^2 - 15744 R^4 s^4 + 288 R^2 s^6 + 25 s^8) - 8 r^5 (832 R^5 s^4 + 512 R^3 s^6 - 11 R s^8) \bigg) / \\ & \quad \left(r^6 - 6 r^5 R - 22 r R s^4 + s^6 - 28 r^3 R (8 R^2 + s^2) + r^4 (-96 R^2 + 3 s^2) + r^2 (128 R^2 s^2 + 3 s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{304}|^2:$$

$$\begin{aligned} & - \left((256 r^4 R^2 s^4 (r^8 + 20 r^7 R - 4 R^2 s^6 + r^6 (160 R^2 - s^2) + 16 r^5 (40 R^3 - 3 R s^2) + r^4 \right. \\ & \quad (1280 R^4 - 372 R^2 s^2 - 5 s^4) + 4 r^3 (256 R^5 - 232 R^3 s^2 + 13 R s^4) - \\ & \quad 3 r^2 (192 R^4 s^2 - 56 R^2 s^4 + s^6) + r (96 R^3 s^4 - 8 R s^6) \bigg) / \\ & \quad \left(r^8 + 16 r^7 R + 16 r^3 R s^4 + 16 r R s^6 - s^8 + 32 r^4 R^2 (8 R^2 + s^2) + 16 r^5 R (16 R^2 + s^2) + \right. \\ & \quad \left. 2 r^6 (48 R^2 + s^2) - 2 r^2 (32 R^2 s^4 + s^6) \right)^2 \end{aligned}$$

$$|X_{76}X_{306}|^2:$$

$$\begin{aligned} & - \left((4 r^4 (r^{10} + 24 r^9 R + r^8 (244 R^2 + s^2) + 16 r^7 (85 R^3 - R s^2) + r^6 (4480 R^4 - 312 R^2 s^2 - 6 s^4) - \right. \\ & \quad s^6 (16 R^4 + 20 R^2 s^2 + 3 s^4) + 16 r^5 (544 R^5 - 107 R^3 s^2 - 4 R s^4) + \\ & \quad 2 r^4 (4608 R^6 - 2120 R^4 s^2 - 176 R^2 s^4 - 7 s^6) + 16 r^3 R (256 R^6 - 312 R^4 s^2 - 45 R^2 s^4 + s^6) - \\ & \quad r^2 (2304 R^6 s^2 + 288 R^4 s^4 - 184 R^2 s^6 + 11 s^8) + 8 r (48 R^5 s^4 + 38 R^3 s^6 + 5 R s^8) \bigg) / \\ & \quad \left(3 r^6 + 30 r^5 R + 14 r R s^4 - s^6 + r^4 (96 R^2 + 5 s^2) + 4 r^3 (24 R^3 - 5 R s^2) + r^2 (-64 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{312}|^2:$$

$$\begin{aligned} & - \left((64 r^4 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 + r^6 (160 R^2 - s^2) + 16 r^5 (40 R^3 - 3 R s^2) + \right. \\ & \quad r^4 (1280 R^4 - 372 R^2 s^2 - 5 s^4) + 4 r^3 (256 R^5 - 232 R^3 s^2 + 13 R s^4) - \\ & \quad 3 r^2 (192 R^4 s^2 - 56 R^2 s^4 + s^6) + r (96 R^3 s^4 - 8 R s^6) \bigg) / \\ & \quad \left(r^6 - 16 r R s^4 + s^6 - 16 r^3 R (8 R^2 + s^2) + r^4 (-48 R^2 + 3 s^2) + r^2 (80 R^2 s^2 + 3 s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{319}|^2:$$

$$\begin{aligned} & - \left((64 r^2 R s^4 (2 r^7 + 27 r^6 R - R s^6 + 2 r^5 (68 R^2 + 3 s^2) + r^4 (304 R^3 + 53 R s^2) + \right. \\ & \quad r^3 (256 R^4 + 32 R^2 s^2 + 6 s^4) - 3 r^2 (48 R^3 s^2 + 13 R s^4) + 2 r (12 R^2 s^4 + s^6) \bigg) / \\ & \quad \left(r^6 + 12 r^5 R + 28 r R s^4 - 3 s^6 + r^4 (48 R^2 - s^2) + 8 r^3 (8 R^3 - 3 R s^2) - 5 r^2 (16 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{320}|^2:$$

$$\begin{aligned} & (64 r^2 R s^4 (2 r^7 + 29 r^6 R + R s^6 + 6 r^5 (20 R^2 + s^2) + r^4 (80 R^3 - 69 R s^2) + \\ & \quad r^3 (-256 R^4 + 96 R^2 s^2 + 6 s^4) + 3 r^2 (48 R^3 s^2 - 11 R s^4) + r (-24 R^2 s^4 + 2 s^6) \bigg) / \\ & \quad \left(3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 8 r^3 (24 R^3 - R s^2) + r^2 (-112 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{76}X_{321}|^2:$$

$$- \left((16 r^2 R^2 (r^{10} + 20 r^9 R + 28 r R s^8 - s^{10} + 5 r^8 (32 R^2 - s^2) + 16 r^7 (40 R^3 - 7 R s^2) + 2 r^6 (640 R^4 - 378 R^2 s^2 - 3 s^4) + 32 r^5 (32 R^5 - 61 R^3 s^2 + 6 R s^4) + r^4 (-1600 R^4 s^2 + 952 R^2 s^4 + 6 s^6) + 32 r^3 (29 R^3 s^4 - 5 R s^6) + r^2 (-244 R^2 s^6 + 5 s^8)) \right) / (r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R (8 R^2 + s^2) + r^2 (32 R^2 s^2 + 3 s^4))^2$$

$$|X_{76}X_{345}|^2:$$

$$- \left((16 r^4 (r^{10} + 24 r^9 R - s^6 (4 R^2 + s^2)^2 + 20 r^7 R (68 R^2 + s^2) + r^8 (244 R^2 + 3 s^2) + 2 r^6 (2240 R^4 - 28 R^2 s^2 + s^4) + 12 r R s^4 (32 R^4 + 12 R^2 s^2 + s^4) + 4 r^5 (2176 R^5 - 204 R^3 s^2 - 5 R s^4) + r^4 (9216 R^6 - 2704 R^4 s^2 - 276 R^2 s^4 - 2 s^6) + 4 r^3 (1024 R^7 - 992 R^5 s^2 - 140 R^3 s^4 - R s^6) - r^2 (2304 R^6 s^2 + 96 R^4 s^4 - 80 R^2 s^6 + 3 s^8)) \right) / (5 r^6 + 48 r^5 R + 16 r R s^4 - s^6 + 9 r^4 (16 R^2 + s^2) + 32 r^3 (4 R^3 - R s^2) + r^2 (-80 R^2 s^2 + 3 s^4))^2$$

$$|X_{76}X_{346}|^2:$$

$$- \left((4 r^4 (r^{10} + 28 r^9 R - s^6 (8 R^2 + s^2)^2 + 3 r^8 (112 R^2 + s^2) + 8 r^7 (280 R^3 + 3 R s^2) + 2 r^6 (4480 R^4 - 66 R^2 s^2 + s^4) + 4 r R s^4 (384 R^4 + 56 R^2 s^2 + s^4) + 32 r^5 (672 R^5 - 66 R^3 s^2 - R s^4) + r^4 (28672 R^6 - 8832 R^4 s^2 - 328 R^2 s^4 - 2 s^6) + 8 r^3 (2048 R^7 - 1920 R^5 s^2 - 60 R^3 s^4 - 3 R s^6) + r^2 (-9216 R^6 s^2 + 1152 R^4 s^4 + 188 R^2 s^6 - 3 s^8)) \right) / (2 r^6 + 24 r^5 R - 80 r^2 R^2 s^2 + 16 r R s^4 - s^6 + 3 r^4 (32 R^2 + s^2) + 8 r^3 (16 R^3 - R s^2))^2$$

$$|X_{76}X_{350}|^2:$$

$$(64 r^2 R^2 s^4 (r^{10} + 16 r^9 R - 24 r R s^8 + s^{10} + r^8 (96 R^2 + 5 s^2) + 8 r^7 (32 R^3 + 3 R s^2) + 2 r^6 (128 R^4 - 24 R^2 s^2 + 5 s^4) - 8 r^5 (32 R^3 s^2 + 3 R s^4) + 2 r^4 (128 R^2 s^4 + 5 s^6) - 8 r^3 (32 R^3 s^4 + 7 R s^6) + r^2 (144 R^2 s^6 + 5 s^8)) / (r^8 + 16 r^7 R - 24 r R s^6 + s^8 - 32 r^3 R s^2 (12 R^2 + s^2) + 4 r^6 (24 R^2 + s^2) + 8 r^5 R (32 R^2 + s^2) + 2 r^4 (128 R^4 - 64 R^2 s^2 + 3 s^4) + 4 r^2 (40 R^2 s^4 + s^6))^2$$

$$|X_{78}X_{79}|^2:$$

$$\frac{8 r^6 + 44 r^5 R + 9 R^4 s^2 + r^4 (54 R^2 - 8 s^2) + r^3 (-66 R^3 + 12 R s^2) - 3 r^2 (57 R^4 + 2 R^2 s^2) - 18 r (8 R^5 - R^3 s^2)}{(2 r^2 + r R - 3 R^2)^2}$$

$$|X_{78}X_{80}|^2:$$

$$\frac{8 r^5 - 2 r^4 R - 28 r^3 R^2 + 16 r R^4 - R^3 s^2 + r^2 (-5 R^3 + 2 R s^2)}{(r - R)^2 (2 r - R)}$$

$$|X_{78}X_{81}|^2:$$

$$\frac{R (-4 r^7 - 20 r^6 R + 3 r^2 R s^4 - 16 r R^2 s^4 + R s^6 + r^5 (-24 R^2 + 2 s^2) + 2 r^4 (2 R^3 + 5 R s^2) + r^3 (36 R^2 s^2 - 2 s^4))}{(r^3 + R s^2 - r (R^2 + s^2))^2}$$

$$|X_{78}X_{83}|^2:$$

$$(9 r^{12} + 132 r^{11} R + 16 R^2 s^{10} + 8 r R s^8 (-60 R^2 + s^2) + r^{10} (544 R^2 + 21 s^2) - 16 r^9 (65 R^3 - 11 R s^2) + r^2 s^6 (4752 R^4 - 216 R^2 s^2 + s^4) + r^8 (-15360 R^4 + 808 R^2 s^2 + 10 s^4) - 16 r^7 (3104 R^5 - 363 R^3 s^2 + 14 R s^4) - 2 r^6 (34816 R^6 - 14344 R^4 s^2 + 644 R^2 s^4 + 3 s^6) - 8 r^5 (4608 R^7 - 7664 R^5 s^2 + 730 R^3 s^4 - 25 R s^6) + r^4 (45312 R^6 s^2 - 19808 R^4 s^4 + 520 R^2 s^6 - 3 s^8) - 4 r^3 (5344 R^5 s^4 - 740 R^3 s^6 + 9 R s^8)) / ((r - R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2)$$

$$|X_{78}X_{85}|^2:$$

$$\frac{1}{(r - R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2}$$

$$(r^8 + 20 r^7 R + 256 R^6 s^2 + r^6 (160 R^2 + 3 s^2) + 16 r^5 (39 R^3 + 2 R s^2) + 32 r R^3 (-128 R^4 + 12 R^2 s^2 + s^4) + r^4 (1024 R^4 + 72 R^2 s^2 + 3 s^4) - 4 r^3 (128 R^5 + 44 R^3 s^2 + 5 R s^4) + r^2 (-4096 R^6 - 496 R^4 s^2 + 24 R^2 s^4 + s^6))$$

$$|X_{78}X_{86}|^2: \frac{1}{(r-R)^2 (r^2+4rR+5s^2)^2} \\ (r^8 + 12r^7R + 16R^2s^6 + 8rRs^4 (-28R^2 + s^2) + 3r^6 (16R^2 + s^2) + 8r^5 (6R^3 + 7Rs^2) + \\ r^4 (-128R^4 + 88R^2s^2 + 3s^4) - 4r^3 (64R^5 + 44R^3s^2 - 5Rs^4) + r^2 (-496R^4s^2 - 24R^2s^4 + s^6))$$

$$|X_{78}X_{88}|^2: \frac{R(-72r^7 + 108r^6R - 40rR^2s^4 + Rs^6 + 6r^5(156R^2 + s^2) - 18r^4(14R^3 + 9Rs^2) + 6r^3(-384R^4 + 6R^2s^2 + s^4) + r^2(528R^3s^2 - Rs^4))}{(r-R)^2 (3r^2 - 15rR + s^2)^2}$$

$$|X_{78}X_{89}|^2: \frac{R(-180r^7 - 567r^6R - 40rR^2s^4 + 4Rs^6 + 12r^5(15R^2 + 7s^2) + 9r^4(116R^3 + 9Rs^2) - 12r^3(48R^4 - 27R^2s^2 + 2s^4) + r^2(-348R^3s^2 + 8Rs^4))}{(r-R)^2 (-6r^2 + 3rR + 2s^2)^2}$$

$$|X_{78}X_{99}|^2: \frac{r^2(r^6 + 12r^5R + 16r^3R(3R^2 + s^2) + 3r^4(16R^2 + s^2) + (-4R^2s + s^3)^2 + r^2(-128R^4 + 56R^2s^2 + 3s^4) - 4r(64R^5 - 44R^3s^2 + 7Rs^4))}{(r-R)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))}$$

$$|X_{78}X_{141}|^2: \frac{1}{4(r-R)^2 (r^2 + 4rR - s^2)^2} \\ (3r^8 + 30r^7R + R^2s^6 + r^6(79R^2 - 9s^2) - 2r^5(38R^3 + 17Rs^2) + r^4(-560R^4 + 51R^2s^2 + 5s^4) - \\ 2r^3(288R^5 - 152R^3s^2 + 7Rs^4) + r^2(228R^4s^2 - 47R^2s^4 + s^6) + r(-28R^3s^4 + 2Rs^6))$$

$$|X_{78}X_{142}|^2: \frac{3r^6 + 30r^5R + 36R^4s^2 + r^4(79R^2 - s^2) + 48r^3(-12R^2 + s^2) + r^3(-76R^3 + 2Rs^2) + r^2(-560R^4 + 15R^2s^2)}{4(r^2 + 3rR - 4R^2)^2}$$

$$|X_{78}X_{145}|^2: \frac{(r-2R)^2 (5r^2 - 16rR + s^2)}{(r-R)^2}$$

$$|X_{78}X_{190}|^2: \frac{r^2(7r^6 + 100r^5R + r^4(496R^2 + 13s^2) + 16r^3(61R^3 - 10Rs^2) - (-4R^2s + s^3)^2 + r^2(640R^4 - 216R^2s^2 + 5s^4) + 4r(64R^5 - 44R^3s^2 + 7Rs^4))}{(r-R)^2 (-3r^2 - 12rR + s^2)^2}$$

$$|X_{78}X_{192}|^2: \frac{1}{(r-R)^2 (r^2 + 4rR + s^2)^2} \\ (-3r^8 - 36r^7R + 4R^2s^6 - 4rRs^4(16R^2 + s^2) - 5r^6(28R^2 + s^2) + r^5(-160R^3 + 68Rs^2) + \\ r^4(64R^4 + 12R^2s^2 - s^4) - 4r^3(40R^3s^2 + 7Rs^4) + r^2(92R^2s^4 + s^6))$$

$$|X_{78}X_{194}|^2: (-3r^{12} - 60r^{11}R + 4R^2s^{10} - 4rRs^8(24R^2 + s^2) - r^{10}(476R^2 + 11s^2) - 4r^9(464R^3 + 17Rs^2) + \\ 8r^5Rs^2(384R^4 - 44R^2s^2 + s^4) + r^2s^6(576R^4 + 100R^2s^2 + s^4) - \\ 2r^8(1728R^4 + 30R^2s^2 + 7s^4) - 8r^7(256R^5 - 20R^3s^2 - 3Rs^4) + \\ 2r^6(512R^6 + 416R^4s^2 + 188R^2s^4 - 3s^6) + r^4(-256R^4s^4 + 56R^2s^6 + s^8) - \\ 4r^3(256R^5s^4 + 104R^3s^6 + 7Rs^8)) / ((r-R)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2)$$

$$|X_{78}X_{200}|^2: \frac{r^2R^2(5r^2 - 16rR + s^2)}{(r^2 - 3rR + 2R^2)^2}$$

$$|X_{78}X_{210}|^2: \frac{-4r^4R + R^3s^2 + r^3(-35R^2 + 2s^2) + r^2(-44R^3 + 3Rs^2) + r(-16R^4 + 3R^2s^2)}{9(r-R)^2R}$$

$$|X_{78}X_{213}|^2: - \left((R(2r^{11} + 37r^{10}R + 276r^9R^2 + 20rR^2s^8 - Rs^{10} + 11r^8R(96R^2 + s^2) + 4r^7(544R^4 + 28R^2s^2 - \\ s^4) + r^6(2304R^5 + 396R^3s^2 - 26Rs^4) + 8r^5(128R^6 + 76R^4s^2 - 7R^2s^4) + \\ r^4(448R^5s^2 - 264R^3s^4 - 2Rs^6) + r^3(-224R^4s^4 + 2s^8) - r^2(52R^3s^6 + 3Rs^8))) / \right. \\ \left. ((r-R)^2 (r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2) \right)$$

$$|X_{78}X_{238}|^2: \frac{R(4r^7 + 63r^6R + 32rR^2s^4 - Rs^6 + 8r^5(47R^2 - 3s^2) + 5r^2Rs^2(-64R^2 + s^2) + r^4(1008R^3 - 43Rs^2) + 4r^3(256R^4 - 42R^2s^2 + s^4))}{(r-R)^2 (-3r^2 - 12rR + s^2)^2}$$

$$\begin{aligned}
|X_{78}X_{239}|^2 &: \frac{(5r^2-16rR+s^2)(r^3+6r^2R-2Rs^2+r(8R^2+s^2))^2}{(r-R)^2(-3r^2-12rR+s^2)^2} \\
|X_{78}X_{244}|^2 &: \frac{R(-36r^7+97r^6R+704r^5R^2-40rR^2s^4+R^3s^6-r^4(320R^3+113Rs^2)+4r^3(-576R^4+10R^2s^2+s^4)+r^2(528R^3s^2-Rs^4))}{(r-R)^2(r^2-14rR+s^2)^2} \\
|X_{78}X_{304}|^2 &: \left(r^2 \left(r^{10} + 20r^9R + s^6(-4R^2+s^2)^2 + 24r^7R(26R^2+s^2) + \right. \right. \\
&\quad r^8(160R^2+s^2) + 2r^6(512R^4+68R^2s^2-s^4) - 16r^5(32R^5-9R^3s^2+4Rs^4) - \\
&\quad 2r^4(2048R^6+312R^4s^2+92R^2s^4+s^6) - 8r^3(512R^7+208R^5s^2-18R^3s^4-5Rs^6) + \\
&\quad \left. \left. r^2(-1792R^6s^2+480R^4s^4+24R^2s^6+s^8) - 4r(32R^5s^4-28R^3s^6+5Rs^8) \right) \right) / \\
&\quad \left((r-R)^2(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2 \right) \\
|X_{78}X_{306}|^2 &: \frac{r^2(r^2+4rR+4R^2-s^2)^2(5r^2-16rR+s^2)}{(r-R)^2(-3r^2-6rR+s^2)^2} \\
|X_{78}X_{312}|^2 &: \frac{r^2(r^6-12r^5R-48r^3R^3+r^4(-32R^2+3s^2)+(-4R^2s+s^3)^2+r^2(-192R^4+40R^2s^2+3s^4)-4r(64R^5-36R^3s^2+5Rs^4))}{(r-R)^2(r^2-8rR+s^2)^2} \\
|X_{78}X_{319}|^2 &: \frac{r^2(r^6+12r^5R+3r^4(16R^2-7s^2)+16r^3(3R^3-5Rs^2)+(4R^2s-3s^3)^2+r^2(-128R^4+40R^2s^2+51s^4)-4r(64R^5-100R^3s^2+39Rs^4))}{(r-R)^2(r^2+4rR-3s^2)^2} \\
|X_{78}X_{320}|^2 &: \frac{r^2(9r^6+108r^5R+9r^4(48R^2-5s^2)+48r^3(9R^3-Rs^2)+(-12R^2s+s^3)^2+r^2(-1152R^4-24R^2s^2+11s^4)-4r(576R^5-132R^3s^2+7Rs^4))}{(r-R)^2(-3r^2-12rR+s^2)^2} \\
|X_{78}X_{321}|^2 &: \frac{r^2(r^6-16rRs^4+s^6+3r^4(-4R^2+s^2)-16r^3(R^3-Rs^2)+r^2(16R^4+4R^2s^2+3s^4))}{(r-R)^2(r^2-2rR+s^2)^2} \\
|X_{78}X_{345}|^2 &: \frac{r^2(9r^6+4r^5R-r^4(224R^2+9s^2)-8r^3(86R^3-7Rs^2)+(-4R^2s+s^3)^2-r^2(704R^4-216R^2s^2+s^4)-4r(64R^5-44R^3s^2+7Rs^4))}{(r-R)^2(-5r^2-8rR+s^2)^2} \\
|X_{78}X_{346}|^2 &: \frac{r^2(8r^5R+4r^4(21R^2+s^2)+8r^3(38R^3-3Rs^2)-(-4R^2s+s^3)^2+r^2(448R^4-124R^2s^2-s^4)+8r(32R^5-20R^3s^2+3Rs^4))}{(r-R)^2(-2r^2-8rR+s^2)^2} \\
|X_{78}X_{350}|^2 &: \left(r^2 \left(r^{10} + 20r^9R + s^6(-12R^2+s^2)^2 + 5r^8(32R^2+s^2) + 8r^7(78R^3+5Rs^2) - 16r^5 \right. \right. \\
&\quad (32R^5+57R^3s^2) + 2r^6(512R^4-20R^2s^2+5s^4) - \\
&\quad 2r^4(2048R^6+568R^4s^2-28R^2s^4-5s^6) - 8r^3(512R^7-496R^5s^2-26R^3s^4+5Rs^6) + \\
&\quad \left. \left. r^2(6400R^6s^2-992R^4s^4-24R^2s^6+5s^8) - 4r(672R^5s^4-116R^3s^6+5Rs^8) \right) \right) / \\
&\quad \left((r-R)^2(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2 \right) \\
|X_{79}X_{80}|^2 &: -\frac{16r^2R(2r^2+8rR+9R^2-2s^2)}{(2r-R)(2r+3R)^2} \\
|X_{79}X_{81}|^2 &: -\frac{r^2(8r^5R-9R^4s^2-30R^2s^4+8s^6+80r^3R(3R^2+s^2)+r^4(74R^2+24s^2)+r^2(315R^4+108R^2s^2-32s^4)+8r(18R^5+6R^3s^2-7Rs^4))}{(2r+3R)^2(r^2+rR-s^2)^2}
\end{aligned}$$

$$\begin{aligned}
|X_{79}X_{83}|^2: & \quad (16 r^{12} + 298 r^{11} R + 9 R^2 s^{10} + 3 r^{10} (667 R^2 - 144 s^2) - \\
& \quad 6 r R s^8 (60 R^2 - 7 s^2) + r^9 (4240 R^3 - 6606 R s^2) + r^2 s^6 (5328 R^4 - 507 R^2 s^2 - 176 s^4) + \\
& \quad r^8 (-14 240 R^4 - 37 923 R^2 s^2 + 1248 s^4) - 4 r^7 (24 384 R^5 + 23 742 R^3 s^2 - 3697 R s^4) - \\
& \quad 6 r^6 (33 408 R^6 + 11 688 R^4 s^2 - 9823 R^2 s^4 + 240 s^6) - \\
& \quad 4 r^5 (36 864 R^7 - 22 656 R^5 s^2 - 19 550 R^3 s^4 + 2959 R s^6) + 2 r^4 \\
& \quad (59 904 R^6 s^2 - 5952 R^4 s^4 - 12 267 R^2 s^6 + 392 s^8) - 6 r^3 (6144 R^5 s^4 - 324 R^3 s^6 - 563 R s^8) \Big) / \\
& \quad \Big((2 r + 3 R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2)) \Big)^2 \\
|X_{79}X_{85}|^2: & \quad \frac{1}{(2 r + 3 R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2} \\
& \quad R (2 r^7 + 41 r^6 R + 9 R s^6 + r^5 (336 R^2 + 22 s^2) + r^4 (1376 R^3 + 171 R s^2) + \\
& \quad r^3 (2816 R^4 + 312 R^2 s^2 - 90 s^4) + r^2 (2304 R^5 - 80 R^3 s^2 - 309 R s^4) - 6 r (20 R^2 s^4 - 3 s^6) \Big) \\
|X_{79}X_{86}|^2: & \quad \frac{1}{(2 r + 3 R)^2 (r^2 + 4 r R + 5 s^2)^2} \\
& \quad (2 r^7 R + 9 R^2 s^6 + r^6 (25 R^2 + 16 s^2) + 2 r^5 (52 R^3 + 87 R s^2) + r^4 (144 R^4 + 539 R^2 s^2 + 96 s^4) + \\
& \quad r^3 (696 R^3 s^2 + 214 R s^4) + r^2 (459 R^2 s^4 - 176 s^6) - 6 r (24 R^3 s^4 - 7 R s^6) \Big) \\
|X_{79}X_{88}|^2: & \quad - \frac{1}{(2 r + 3 R)^2 (3 r^2 - 15 r R + s^2)^2} \\
& \quad r^2 (144 r^5 R - 81 R^4 s^2 - 18 R^2 s^4 + 8 s^6 + 6 r^4 (93 R^2 + 20 s^2) - 12 r^3 (69 R^3 + 76 R s^2) + \\
& \quad r^2 (-3429 R^4 + 1596 R^2 s^2 + 64 s^4) + 4 r (324 R^5 + 117 R^3 s^2 - 56 R s^4) \Big) \\
|X_{79}X_{89}|^2: & \quad - \frac{1}{(2 r + 3 R)^2 (-6 r^2 + 3 r R + 2 s^2)^2} r^2 (360 r^5 R - 81 R^4 s^2 - 108 R^2 s^4 + 32 s^6 + 84 r^4 (33 R^2 + 8 s^2) + \\
& \quad 42 r^3 (159 R^3 + 8 R s^2) + r^2 (4995 R^4 + 168 R^2 s^2 - 320 s^4) + 2 r (648 R^5 - 153 R^3 s^2 - 76 R s^4) \Big) \\
|X_{79}X_{99}|^2: & \quad (2 r^7 R - 213 r^2 R^2 s^4 + 9 R^2 s^6 + r^6 (25 R^2 - 64 s^2) + 2 r^5 (52 R^3 - 213 R s^2) + \\
& \quad r^4 (144 R^4 - 965 R^2 s^2 + 192 s^4) - 6 r^3 (92 R^3 s^2 - 17 R s^4) - 18 r (8 R^3 s^4 - R s^6) \Big) / \\
& \quad \Big((2 r + 3 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \Big) \\
|X_{79}X_{141}|^2: & \quad \frac{1}{4 (2 r + 3 R)^2 (r^2 + 4 r R - s^2)^2} \\
& \quad (4 r^8 + 56 r^7 R + 9 R^2 s^6 + r^6 (283 R^2 - 12 s^2) + 12 r^5 (47 R^3 - 10 R s^2) + \\
& \quad r^4 (144 R^4 - 225 R^2 s^2 + 28 s^4) - 8 r^3 (72 R^5 - 60 R^3 s^2 - 13 R s^4) + \\
& \quad r^2 (612 R^4 s^2 - 243 R^2 s^4 - 20 s^6) + r (-180 R^3 s^4 + 24 R s^6) \Big) \\
|X_{79}X_{142}|^2: & \quad \frac{4 r^6 + 56 r^5 R + 36 R^4 s^2 + r^4 (283 R^2 - 12 s^2) + 12 r^3 (47 R^3 - 10 R s^2) + 3 r^2 (48 R^4 - 91 R^2 s^2) - 144 r (4 R^5 - R^3 s^2)}{4 (2 r^2 + 11 r R + 12 R^2)^2} \\
|X_{79}X_{145}|^2: & \quad \frac{56 r^4 + 110 r^3 R + 9 R^2 s^2 + 6 r R (-24 R^2 + s^2) - r^2 (51 R^2 + 8 s^2)}{(2 r + 3 R)^2} \\
|X_{79}X_{190}|^2: & \quad \frac{1}{(2 r + 3 R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
& \quad (-16 r^8 - 294 r^7 R + 9 R^2 s^6 + 18 r R s^4 (-16 R^2 + s^2) - r^6 (2127 R^2 + 224 s^2) - \\
& \quad 2 r^5 (3788 R^3 + 317 R s^2) + r^4 (-13 296 R^4 + 1579 R^2 s^2 + 48 s^4) - \\
& \quad 6 r^3 (1536 R^5 - 924 R^3 s^2 + 11 R s^4) + 3 r^2 (960 R^4 s^2 - 191 R^2 s^4) \Big) \\
|X_{79}X_{192}|^2: & \quad - \frac{1}{(2 r + 3 R)^2 (r^2 + 4 r R + s^2)^2} (8 r^8 + 130 r^7 R - 9 R^2 s^6 + r^6 (827 R^2 + 24 s^2) + 6 r^5 (428 R^3 - 43 R s^2) + \\
& \quad 3 r^4 (1296 R^4 - 593 R^2 s^2 + 8 s^4) + 2 r^3 (1152 R^5 - 1488 R^3 s^2 + 59 R s^4) + \\
& \quad r^2 (-1296 R^4 s^2 + 201 R^2 s^4 + 8 s^6) + 6 r (36 R^3 s^4 - R s^6) \Big)
\end{aligned}$$

$$\begin{aligned}
& |X_{79}X_{194}|^2: \\
& - \left((8r^{12} + 194r^{11}R - 9R^2s^{10} - 6rRs^8(-24R^2 + s^2) + 5r^{10}(399R^2 + 8s^2) + 2r^9(5632R^3 + \right. \\
& \quad 225Rs^2) + r^2s^6(288R^4 + 39R^2s^2 + 8s^4) + r^8(37664R^4 + 1827R^2s^2 + 80s^4) + \\
& \quad 4r^7(18624R^5 + 820R^3s^2 + 45Rs^4) + 2r^6(40320R^6 + 1200R^4s^2 - 1649R^2s^4 + 40s^6) - \\
& \quad 4r^5R(-9216R^6 + 192R^4s^2 + 2804R^2s^4 + 55s^6) - \\
& \quad \left. 2r^4(1152R^6s^2 + 5712R^4s^4 - 507R^2s^6 - 20s^8) - 6r^3(768R^5s^4 - 168R^3s^6 + 25Rs^8) \right) / \\
& \quad \left((2r + 3R)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
& |X_{79}X_{200}|^2: \quad \frac{4(2r^6 + 14r^5R + 9R^4s^2 + 2r^4(9R^2 - s^2) - 3r^2R^2(57R^2 + s^2) + r^3(-60R^3 + 6Rs^2) - 18r(8R^5 - R^3s^2))}{(-2r^2 + rR + 6R^2)^2} \\
& |X_{79}X_{210}|^2: \quad - \frac{12r^5 + 118r^4R - 36R^3s^2 + 4r^3(109R^2 + s^2) + r^2(759R^3 + 26Rs^2) + 6r(96R^4 - 17R^2s^2)}{9R(2r + 3R)^2} \\
& |X_{79}X_{213}|^2: \\
& - \left((4r^2(r^9R - 9R^4s^6 - 6R^2s^8 + 2s^{10} + r^8(22R^2 + 6s^2) + r^7(201R^3 + 82Rs^2) + 4r^6 \right. \\
& \quad (244R^4 + 105R^2s^2 + s^4) + r^5(2656R^5 + 993R^3s^2 + 72Rs^4) + r^4(3840R^6 + \\
& \quad 1159R^4s^2 + 336R^2s^4 - 8s^6) + r^3(2304R^7 + 1032R^5s^2 + 511R^3s^4 - 34Rs^6) + \\
& \quad \left. 2r^2(504R^6s^2 + 63R^4s^4 - 2R^2s^6 - 2s^8) + r(72R^5s^4 + 39R^3s^6 - 25Rs^8) \right) / \\
& \quad \left((2r + 3R)^2 (r^4 + 8r^3R + 16r^2R^2 + 4rRs^2 - s^4)^2 \right) \\
& |X_{79}X_{238}|^2: \quad \frac{1}{(2r + 3R)^2(-3r^2 - 12rR + s^2)^2} \\
& \quad 4r^2(6r^6 + 74r^5R + 36R^4s^2 + 3R^2s^4 - 2s^6 + r^4(319R^2 - 38s^2) + \\
& \quad 4r^3(125R^3 - 63Rs^2) - 2r^2(24R^4 + 215R^2s^2 - 9s^4) + r(-576R^5 - 36R^3s^2 + 58Rs^4)) \\
& |X_{79}X_{239}|^2: \quad \frac{1}{(2r + 3R)^2(-3r^2 - 12rR + s^2)^2} \\
& \quad (8r^8 + 102r^7R + 9R^2s^6 + 3r^6(143R^2 - 40s^2) + 2r^5(220R^3 - 519Rs^2) - \\
& \quad 3r^4(400R^4 + 911R^2s^2 - 40s^4) - 6r^3(384R^5 + 376R^3s^2 - 67Rs^4) + \\
& \quad r^2(-1008R^4s^2 + 111R^2s^4 - 8s^6) + r(-72R^3s^4 + 6Rs^6)) \\
& |X_{79}X_{244}|^2: \\
& - \frac{1}{(2r + 3R)^2(r^2 - 14rR + s^2)^2} 4r^2(2r^6 + 16r^5R - 9R^4s^2 - 6R^2s^4 + 2s^6 + r^4(-58R^2 + 6s^2) - \\
& \quad 18r^3(33R^3 + 4Rs^2) + r^2(-981R^4 + 432R^2s^2 + 6s^4) + 2r(72R^5 + 75R^3s^2 - 28Rs^4)) \\
& |X_{79}X_{304}|^2: \\
& \quad (R(2r^{11} + 41r^{10}R + 9Rs^{10} + 18rs^8(-12R^2 + s^2) + r^9(336R^2 + 50s^2) + r^8(1376R^3 + 585Rs^2) + \\
& \quad 4r^7(704R^4 + 654R^2s^2 - 57s^4) + 2r^6(1152R^5 + 2824R^3s^2 - 793Rs^4) + \\
& \quad 4r^5(1344R^4s^2 - 974R^2s^4 + 47s^6) + r^4(-3072R^3s^4 + 814Rs^6) - \\
& \quad 6r^3(384R^4s^4 - 364R^2s^6 + 5s^8) + 3r^2(432R^3s^6 - 125Rs^8)) / \\
& \quad \left((2r + 3R)^2 (r^4 + 8r^3R + 16r^2R^2 + 8rRs^2 - s^4)^2 \right) \\
& |X_{79}X_{306}|^2: \quad \frac{1}{(2r + 3R)^2(-3r^2 - 6rR + s^2)^2} \\
& \quad (8r^8 + 70r^7R + 9R^2s^6 + r^6(181R^2 - 32s^2) + 18rRs^4(-10R^2 + s^2) - 2r^5R(2R^2 + s^2) + \\
& \quad r^4(-588R^4 + 511R^2s^2 + 24s^4) - 18r^3(32R^5 - 60R^3s^2 + 3Rs^4) + 3r^2(204R^4s^2 - 95R^2s^4)) \\
& |X_{79}X_{312}|^2: \quad \frac{1}{(2r + 3R)^2(r^2 - 8rR + s^2)^2} \\
& \quad R(-30r^7 - 199r^6R + 9Rs^6 + 18rs^4(-12R^2 + s^2) + r^5(-592R^2 + 86s^2) + \\
& \quad r^4(-1536R^3 + 139Rs^2) + 6r^3(-384R^4 + 308R^2s^2 + s^4) + 3r^2(432R^3s^2 - 119Rs^4))
\end{aligned}$$

$$|X_{79}X_{319}|^2:$$

$$\frac{R(2r^7+25r^6R-1557r^2Rs^4+81Rs^6+26r^5(4R^2-s^2)+r^4(144R^3-269Rs^2)-18r^3(20R^2s^2+21s^4)-162r(8R^2s^4-s^6))}{(2r+3R)^2(r^2+4rR-3s^2)^2}$$

$$|X_{79}X_{320}|^2:$$

$$\frac{9R(2r^7+25r^6R-21r^2Rs^4+Rs^6+2r^5(-8R^2+s^2)+2r^5(52R^2+3s^2)+r^4(144R^3-61Rs^2)+r^3(-40R^2s^2+6s^4))}{(2r+3R)^2(-3r^2-12rR+s^2)^2}$$

$$|X_{79}X_{321}|^2:$$

$$-\frac{1}{(2r+3R)^2(r^2-2rR+s^2)^2}R(14r^7+119r^6R-9Rs^6+18r^5(22R^2-3s^2)+9r^4(76R^3-35Rs^2)+6r^3(96R^4-144R^2s^2+7s^4)-9r^2(68R^3s^2-29Rs^4)+18r(10R^2s^4-s^6))$$

$$|X_{79}X_{345}|^2:$$

$$\frac{1}{(2r+3R)^2(-5r^2-8rR+s^2)^2}(16r^8+74r^7R+9R^2s^6+18rRs^4(-12R^2+s^2)-3r^6(85R^2+64s^2)-2r^5(1016R^3+97Rs^2)+r^4(-3840R^4+1279R^2s^2+48s^4)-6r^3(384R^5-428R^3s^2+15Rs^4)+3r^2(432R^4s^2-131R^2s^4))$$

$$|X_{79}X_{346}|^2:$$

$$\frac{1}{(2r+3R)^2(-2r^2-8rR+s^2)^2}(-16r^7R+9R^2s^6+18rRs^4(-12R^2+s^2)-8r^6(28R^2+5s^2)-4r^5(292R^3+21Rs^2)+r^4(-2688R^4+700R^2s^2+24s^4)-6r^3(384R^5-368R^3s^2+7Rs^4)+3r^2(432R^4s^2-125R^2s^4))$$

$$|X_{79}X_{350}|^2:$$

$$(R(2r^{11}+41r^{10}R+9Rs^{10}+r^9(336R^2-38s^2)+18r^8(-12R^2+s^2)+r^8(1376R^3-675Rs^2)+4r^7(704R^4-1050R^2s^2+5s^4)+2r^6(1152R^5-5464R^3s^2+853Rs^4)+r^5(-9984R^4s^2+8040R^2s^4+180s^6)+6r^4(1024R^3s^4-345Rs^6)-6r^3(384R^4s^4-268R^2s^6-23s^8)+9r^2(144R^3s^6-43Rs^8))) / ((2r+3R)^2(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2)$$

$$|X_{80}X_{81}|^2:$$

$$\frac{r^2(4r^5+18r^4R+2r^3(17R^2-8s^2)-Rs^2(R^2+2s^2)+r^2(27R^3-32Rs^2)+2r(8R^4-19R^2s^2+6s^4))}{(2r-R)(r^2+rR-s^2)^2}$$

$$|X_{80}X_{83}|^2:$$

$$(88r^{11}+1551r^{10}R-Rs^{10}+8r^9(1350R^2-49s^2)-8r^8(-5R^2+s^2)+5r^8(7456R^3-1089Rs^2)+8r^7(8160R^4-3413R^2s^2+90s^4)+r^6(52992R^5-58256R^3s^2+6934Rs^4)+8r^5(2048R^6-5952R^4s^2+2521R^2s^4-78s^6)-2r^4(6656R^5s^2-8128R^3s^4+1637Rs^6)+8r^3(512R^4s^4-327R^2s^6+27s^8)+r^2(-592R^3s^6+203Rs^8)) / ((2r-R)(5r^4+40r^3R-40rRs^2+5s^4+r^2(80R^2-6s^2))^2)$$

$$|X_{80}X_{85}|^2:$$

$$-\frac{R(9r^6+144r^5R+8rRs^4+s^6+9r^4(96R^2-5s^2)+72r^3(32R^3-5Rs^2)+r^2(2304R^4-720R^2s^2+11s^4))}{(2r-R)(r^2+8rR+16R^2+s^2)^2}$$

$$|X_{80}X_{86}|^2:$$

$$\frac{-9r^6R+37r^2Rs^4-Rs^6+24r^5(-3R^2+s^2)+r^4(-144R^3+93Rs^2)-24r^3(5R^2s^2-6s^4)+8r(2R^2s^4-s^6)}{(2r-R)(r^2+4rR+5s^2)^2}$$

$$|X_{80}X_{88}|^2:$$

$$\frac{r^2(18r^4-108r^3R-27r^2R^2-144rR^3+36rRs^2+9R^2s^2-2s^4)}{(3r^2-15rR+s^2)^2}$$

$$|X_{80}X_{89}|^2:$$

$$\frac{r^2(144r^5+252r^4R-9R^3s^2-4Rs^4+72r^3(3R^2-4s^2)-9r^2(53R^3+8Rs^2)+8r(18R^4-45R^2s^2+10s^4))}{(2r-R)(-6r^2+3rR+2s^2)^2}$$

$$|X_{80}X_{99}|^2:$$

$$-\frac{9r^6R-5r^2Rs^4-16rR^2s^4+Rs^6+24r^5(3R^2+4s^2)+3r^4(48R^3+65Rs^2)+8r^3(27R^2s^2-4s^4)}{(2r-R)(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))}$$

$$|X_{80}X_{141}|^2:$$

$$\frac{10r^7+85r^6R-Rs^6+2r^5(102R^2-7s^2)+r^4(112R^3-87Rs^2)+2r^3(32R^4-84R^2s^2+3s^4)+r^2(-68R^3s^2+35Rs^4)+r(20R^2s^4-2s^6)}{4(2r-R)(r^2+4rR-s^2)^2}$$

$$|X_{80}X_{142}|^2:$$

$$\frac{10r^5+85r^4R-4R^3s^2+2r^3(102R^2+s^2)+r^2(112R^3+9Rs^2)+8r(8R^4-3R^2s^2)}{4(2r-R)(r+4R)^2}$$

$$|X_{80}X_{145}|^2:$$

$$\frac{36r^3-77r^2R-Rs^2+4r(4R^2+s^2)}{2r-R}$$

$$|X_{80}X_{190}|^2:$$

$$\frac{40 r^7 + 415 r^6 R - 32 r R^2 s^4 - R s^6 + 8 r^5 (183 R^2 - 10 s^2) + r^4 (2032 R^3 - 147 R s^2) + 8 r^3 (128 R^4 - 45 R^2 s^2 + s^4) + r^2 (-320 R^3 s^2 + 13 R s^4)}{(2 r - R) (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{80}X_{192}|^2:$$

$$\frac{4 r^7 + 43 r^6 R - R s^6 + 12 r^5 (14 R^2 + s^2) + r^4 (304 R^3 + 213 R s^2) + 4 r^3 (64 R^4 + 48 R^2 s^2 + 3 s^4) - 3 r^2 (48 R^3 s^2 + 29 R s^4) + 4 r (6 R^2 s^4 + s^6)}{(2 r - R) (r^2 + 4 r R + s^2)^2}$$

$$|X_{80}X_{194}|^2:$$

$$\begin{aligned} & (4 r^{11} + 75 r^{10} R - R s^{10} + 4 r s^8 (4 R^2 + s^2) + 4 r^9 (144 R^2 + 5 s^2) + r^8 (2336 R^3 + 139 R s^2) + \\ & 8 r^7 (672 R^4 - 14 R^2 s^2 + 5 s^4) + r^6 (6912 R^5 - 2464 R^3 s^2 - 34 R s^4) + \\ & 8 r^5 (512 R^6 - 544 R^4 s^2 + 206 R^2 s^4 + 5 s^6) - 2 r^4 (128 R^5 s^2 - 176 R^3 s^4 + 93 R s^6) + \\ & r^3 (-512 R^4 s^4 + 304 R^2 s^6 + 20 s^8) + r^2 (32 R^3 s^6 - 89 R s^8)) / \\ & ((2 r - R) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \end{aligned}$$

$$|X_{80}X_{200}|^2:$$

$$\frac{8 r^5 - 56 r^3 R^2 + 64 r R^4 - 4 R^3 s^2 + 4 r^2 R (-5 R^2 + s^2)}{(r - 2 R)^2 (2 r - R)}$$

$$|X_{80}X_{210}|^2:$$

$$-\frac{6 r^4 - 10 r^3 R - 71 r^2 R^2 - 64 r R^3 + 2 r^2 s^2 + 6 r R s^2 + 4 R^2 s^2}{18 r R - 9 R^2}$$

$$|X_{80}X_{213}|^2:$$

$$\begin{aligned} & (4 r^2 (r^9 + 18 r^8 R - R^3 s^6 + r^7 (129 R^2 - 2 s^2) + 2 r^6 (232 R^3 - 5 R s^2) + r^5 (864 R^4 + 31 R^2 s^2 - 4 s^4) + \\ & r^4 (768 R^5 + 223 R^3 s^2 - 42 R s^4) + r^3 (256 R^6 + 296 R^4 s^2 - 77 R^2 s^4 + 2 s^6) + \\ & 2 r^2 (56 R^5 s^2 - 17 R^3 s^4 - 7 R s^6) + r (8 R^4 s^4 - 11 R^2 s^6 + 3 s^8)) / \\ & ((2 r - R) (r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2) \end{aligned}$$

$$|X_{80}X_{238}|^2:$$

$$\frac{4 r^2 (12 r^5 + 109 r^4 R - 4 R^3 s^2 + R s^4 + 4 r^3 (75 R^2 - 4 s^2) + 6 r^2 (40 R^3 - 11 R s^2) + 4 r (16 R^4 - 9 R^2 s^2 + s^4))}{(2 r - R) (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{80}X_{239}|^2:$$

$$\frac{28 r^7 + 259 r^6 R - R s^6 + r^5 (744 R^2 - 68 s^2) + r^4 (688 R^3 - 267 R s^2) + 4 r^3 (64 R^4 + 12 R^2 s^2 + 9 s^4) + r^2 (112 R^3 s^2 - 79 R s^4) + 4 r (2 R^2 s^4 + s^6)}{(2 r - R) (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{80}X_{244}|^2:$$

$$\frac{4 r^2 R (-10 r^3 + 37 r^2 R + R s^2 - 2 r (8 R^2 + s^2))}{(r^2 - 14 r R + s^2)^2}$$

$$|X_{80}X_{304}|^2:$$

$$\begin{aligned} & - \left((R (9 r^{10} + 144 r^9 R - 24 r R s^8 + s^{10} + 3 r^8 (288 R^2 - 37 s^2) + 72 r^7 (32 R^3 - 13 R s^2) + \right. \\ & 18 r^6 (128 R^4 - 120 R^2 s^2 + 7 s^4) - 24 r^5 (32 R^3 s^2 + 5 R s^4) - \\ & 2 r^4 (128 R^2 s^4 + 9 s^6) - 8 r^3 (32 R^3 s^4 - 21 R s^6) + r^2 (144 R^2 s^6 - 7 s^8)) / \\ & \left. ((2 r - R) (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2) \right) \end{aligned}$$

$$|X_{80}X_{306}|^2:$$

$$\frac{28 r^7 + 147 r^6 R + 268 r^5 R^2 + 20 r R^2 s^4 - R s^6 + r^4 (204 R^3 - 55 R s^2) + 4 r^3 (16 R^4 - 36 R^2 s^2 + s^4) + r^2 (-68 R^3 s^2 + 5 R s^4)}{(2 r - R) (-3 r^2 - 6 r R + s^2)^2}$$

$$|X_{80}X_{312}|^2:$$

$$\frac{R (-57 r^6 + 208 r^5 R + 24 r R s^4 - s^6 + r^4 (512 R^2 + 13 s^2) + 8 r^3 (32 R^3 - 19 R s^2) + r^2 (-144 R^2 s^2 + 5 s^4))}{(2 r - R) (r^2 - 8 r R + s^2)^2}$$

$$|X_{80}X_{319}|^2:$$

$$-\frac{9 R (r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2))}{(2 r - R) (r^2 + 4 r R - 3 s^2)^2}$$

$$|X_{80}X_{320}|^2:$$

$$-\frac{R (81 r^6 + 648 r^5 R + 216 r^3 R s^2 - 13 r^2 s^4 - 16 r R s^4 + s^6 + 27 r^4 (48 R^2 - 7 s^2))}{(2 r - R) (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{80}X_{321}|^2:$$

$$-\frac{R (33 r^6 + 44 r^5 R - 20 r R s^4 + s^6 - r^4 (44 R^2 + 29 s^2) - 8 r^3 (8 R^3 - 3 R s^2) + r^2 (68 R^2 s^2 + 3 s^4))}{(2 r - R) (r^2 - 2 r R + s^2)^2}$$

$$|X_{80}X_{345}|^2:$$

$$\frac{88 r^7 + 447 r^6 R + 24 r R^2 s^4 - R s^6 + 16 r^5 (55 R^2 - 2 s^2) + 9 r^2 R s^2 (-16 R^2 + s^2) + 3 r^4 (256 R^3 - 45 R s^2) + 8 r^3 (32 R^4 - 29 R^2 s^2 + s^4)}{(2 r - R) (-5 r^2 - 8 r R + s^2)^2}$$

$$|X_{80}X_{346}|^2:$$

$$\frac{16r^7 + 160r^6R + 24rR^2s^4 - Rs^6 + 12r^5(44R^2 - s^2) + 20r^4(32R^3 - 3Rs^2) + 4r^3(64R^4 - 48R^2s^2 + s^4) + r^2(-144R^3s^2 + 7Rs^4)}{(2r - R)(-2r^2 - 8rR + s^2)^2}$$

$$|X_{80}X_{350}|^2:$$

$$\begin{aligned} & - \left((R(9r^{10} + 144r^9R - 24rRs^8 + s^{10} + 10r^4s^4(-128R^2 + s^2) + r^8(864R^2 + 69s^2) + \right. \\ & \quad 72r^7(32R^3 + 7Rs^2) + 18r^6(128R^4 + 40R^2s^2 + 5s^4) - \\ & \quad \left. 8r^5(96R^3s^2 + 155Rs^4) - 8r^3(32R^3s^4 - 53Rs^6) + r^2(144R^2s^6 - 19s^8)) \right) / \\ & \left((2r - R)(r^4 + 8r^3R - 16rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{81}X_{83}|^2:$$

$$\begin{aligned} & - \left((r^{14} + 32r^{13}R + 32rRs^{12} - s^{14} - r^2s^{10}(328R^2 + 5s^2) + r^{12}(436R^2 + 5s^2) + 8r^3 \right. \\ & \quad Rs^8(140R^2 + 13s^2) + 8r^{11}(410R^3 + 13Rs^2) + 16r^9(2464R^5 + 179R^3s^2) + \\ & \quad r^4s^6(1264R^4 - 908R^2s^2 - 9s^4) + r^{10}(14720R^4 + 808R^2s^2 + 9s^4) + \\ & \quad r^8(58368R^6 + 4592R^4s^2 - 1480R^2s^4 + 5s^6) + \\ & \quad \left. 16r^7(2304R^7 + 232R^5s^2 - 491R^3s^4 - 9Rs^6) - 16r^5(776R^5s^4 - 277R^3s^6) + \right. \\ & \quad \left. r^6(3840R^6s^2 - 13728R^4s^4 + 1664R^2s^6 - 5s^8) \right) / (5r^6 + 45r^5R + 45rRs^4 - \\ & \quad 5s^6 + r^4(120R^2 - 11s^2) + r^3(80R^3 - 86Rs^2) + r^2(-120R^2s^2 + 11s^4))^2 \end{aligned}$$

$$|X_{81}X_{85}|^2:$$

$$\begin{aligned} & - \left((r^{10} + 24r^9R - s^{10} + r^8(244R^2 + 3s^2) + 8r^7(170R^3 + 3Rs^2) + 2r^6(2240R^4 + 8R^2s^2 + s^4) + \right. \\ & \quad 16r^5(544R^5 - 19R^3s^2 + 2Rs^4) - 2r^4(-4608R^6 + 456R^4s^2 - 58R^2s^4 + s^6) + \\ & \quad \left. 8r^3(512R^7 - 112R^5s^2 + 40R^3s^4 - 9Rs^6) - r^2(256R^6s^2 - 384R^4s^4 + 104R^2s^6 + 3s^8) - \right. \\ & \quad \left. 8r(4R^3s^6 - 3Rs^8) \right) / (r^4 + 9r^3R + 24r^2R^2 + 16rR^3 - 7rRs^2 - 16R^2s^2 - s^4)^2 \end{aligned}$$

$$|X_{81}X_{86}|^2:$$

$$- \frac{(r^2 + 2rRs^2)^2(r^6 + 12r^5R + 12rRs^4 - s^6 + r^4(48R^2 + 9s^2) + 8r^3(8R^3 + 3Rs^2) + r^2(60R^2s^2 - 9s^4))}{(r^4 + 5r^3R + rRs^2 - 5s^4 + 4r^2(R^2 + s^2))^2}$$

$$|X_{81}X_{88}|^2:$$

$$- \frac{4r^2R(9r^6R - Rs^6 + 12r^5(9R^2 - s^2) + 4rRs^4(R^2 + s^2) + r^4(432R^3 - 39Rs^2) + 24r^3(24R^4 - 7R^2s^2 + s^4) + 13r^2(12R^3s^2 - 5Rs^4))}{(-3r^4 + 12r^3R - 16rRs^2 + s^4 + r^2(15R^2 + 2s^2))^2}$$

$$|X_{81}X_{89}|^2:$$

$$\frac{r^2R(-9r^6R + Rs^6 - 12r^5(9R^2 - 2s^2) + r^4(-432R^3 + 159Rs^2) - 24r^3(24R^4 - 23R^2s^2 + 4s^4) + r^2(228R^3s^2 - 103Rs^4) + r(-28R^2s^4 + 8s^6))}{(6r^4 + 3r^3R + rRs^2 + 2s^4 - r^2(3R^2 + 8s^2))^2}$$

$$|X_{81}X_{99}|^2:$$

$$- \frac{(r^2 + 2rRs^2)^2(r^6 + 12r^5R + 20rRs^4 - s^6 + r^4(48R^2 + s^2) + 8r^3(8R^3 - 5Rs^2) - r^2(68R^2s^2 + s^4))}{(r^2 + rRs^2)^2(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))}$$

$$|X_{81}X_{141}|^2:$$

$$- \frac{(r^2 + 3rRs^2)^2(r^6 + 12r^5R + 12rRs^4 - s^6 + r^4(48R^2 + 9s^2) + 8r^3(8R^3 + 3Rs^2) + r^2(60R^2s^2 - 9s^4))}{4(r^4 + 5r^3R - 5rRs^2 + s^4 + r^2(4R^2 - 2s^2))^2}$$

$$|X_{81}X_{142}|^2:$$

$$\begin{aligned} & - \frac{1}{4(r + 4R)^2(r^2 + rRs^2)^2} (r^8 + 18r^7R + 40rR^3s^4 - 4R^2s^6 + r^6(129R^2 + 7s^2) + r^5(460R^3 + 52Rs^2) + \\ & \quad r^4(816R^4 + 161R^2s^2 - 9s^4) + r^3(576R^5 + 320R^3s^2 - 46Rs^4) + r^2(348R^4s^2 - 48R^2s^4 + s^6)) \end{aligned}$$

$$|X_{81}X_{145}|^2:$$

$$\frac{7r^6 - 28r^5R - 20rRs^4 + s^6 - 3r^4(32R^2 + 3s^2) + r^3(-64R^3 + 48Rs^2) + r^2(68R^2s^2 + s^4)}{(r^2 + rRs^2)^2}$$

$$|X_{81}X_{190}|^2:$$

$$\begin{aligned} & (-r^{10} - 8r^9R - 32rRs^8 + s^{10} + r^8(-4R^2 + 5s^2) + \\ & \quad 40r^7(2R^3 + 3Rs^2) + 2r^6(32R^4 + 72R^2s^2 + 3s^4) - 8r^5(32R^5 + 38R^3s^2 + 27Rs^4) - \\ & \quad 2r^4(504R^4s^2 + 314R^2s^4 + 3s^6) + r^3(-832R^3s^4 + 136Rs^6) + r^2(312R^2s^6 - 5s^8)) / \\ & (3r^4 + 15r^3R - 13rRs^2 + s^4 + 4r^2(3R^2 - s^2))^2 \end{aligned}$$

$$\begin{aligned}
|X_{81}X_{192}|^2 &: \frac{1}{(r^4+5r^3R+4r^2R^2-3rRs^2-s^4)^2} \\
& \quad (-r^{10}-12r^9R-28rRs^8+s^{10}+r^8(-48R^2+5s^2)-16r^7(4R^3-7Rs^2)+r^6(356R^2s^2+6s^4)+ \\
& \quad 24r^5(16R^3s^2-9Rs^4)-6r^4(108R^2s^4+s^6)-144r^3(4R^3s^4-Rs^6)+r^2(228R^2s^6-5s^8)) \\
|X_{81}X_{194}|^2 &: \frac{(-r^{14}-20r^{13}R-20rRs^{12}+s^{14}+r^2s^{10}(52R^2-3s^2)+r^{12}(-160R^2+3s^2)+ \\
& \quad 8r^3Rs^8(28R^2+11s^2)+r^{11}(-640R^3+88Rs^2)+r^{10}(-1280R^4+692R^2s^2+15s^4)- \\
& \quad 4r^9(256R^5-552R^3s^2-5Rs^4)+r^8(3136R^4s^2-112R^2s^4+11s^6)+ \\
& \quad 16r^7(128R^5s^2-38R^3s^4-11Rs^6)-r^6(1152R^4s^4+840R^2s^6+11s^8)- \\
& \quad 4r^5(256R^5s^4+296R^3s^6-5Rs^8)+r^4(-448R^4s^6+176R^2s^8-15s^{10}))}{(r^6+9r^5R+9rRs^4-s^6+r^4(24R^2+s^2)+2r^3(8R^3-7Rs^2)-r^2(24R^2s^2+s^4))^2} \\
|X_{81}X_{200}|^2 &: \frac{R(-2r^7-15r^6R+16r^2Rs^4-64rR^2s^4+4Rs^6+r^4R(16R^2+s^2)+r^5(-24R^2+2s^2)+r^3(80R^2s^2-4s^4))}{(r-2R)^2(r^2+rR-s^2)^2} \\
|X_{81}X_{210}|^2 &: \frac{2r^6R+4Rs^6+r^5(15R^2+2s^2)+r^4(24R^3-2Rs^2)+r^3(-16R^4+5R^2s^2-4s^4)-r^2(63R^3s^2+4Rs^4)+r(-60R^2s^4+2s^6)}{9R(r^2+rR-s^2)^2} \\
|X_{81}X_{213}|^2 &: - \left((r^2R^2(r^{10}+20r^9R-4rRs^8-s^{10}+r^8(160R^2+19s^2)+80r^7(8R^3+3Rs^2)+2 \right. \\
& \quad \left. r^6(640R^4+582R^2s^2+9s^4)+32r^5(32R^5+83R^3s^2+9Rs^4)+ \right. \\
& \quad \left. 2r^4(1248R^4s^2+572R^2s^4-9s^6)+32r^3(53R^3s^4-2Rs^6)+r^2(204R^2s^6-19s^8)) \right) / \\
& \quad (r^6+9r^5R-5rRs^4+s^6+r^4(24R^2-s^2)+4r^3(4R^3-Rs^2)-r^2(12R^2s^2+s^4))^2 \\
|X_{81}X_{238}|^2 &: - \left((r^2R(10r^7+127r^6R-9Rs^6+2r^5(300R^2+7s^2)+r^4(1264R^3+165Rs^2)+2r^3 \right. \\
& \quad \left. (512R^4+252R^2s^2-s^4)+r^2(704R^3s^2-35Rs^4)+r(96R^2s^4-6s^6)) \right) / \\
& \quad (3r^4+15r^3R-13rRs^2+s^4+4r^2(3R^2-s^2))^2 \\
|X_{81}X_{239}|^2 &: - \left((r^{10}+20r^9R+12rRs^8-s^{10}+16r^7R(40R^2+s^2)+ \right. \\
& \quad \left. r^8(160R^2+3s^2)+2r^6(640R^4+6R^2s^2+s^4)+16r^5(64R^5+6R^3s^2+3Rs^4)+ \right. \\
& \quad \left. r^4(448R^4s^2+88R^2s^4-2s^6)+32r^3(9R^3s^4-2Rs^6)+r^2(44R^2s^6-3s^8)) \right) / \\
& \quad (3r^4+15r^3R-13rRs^2+s^4+4r^2(3R^2-s^2))^2 \\
|X_{81}X_{244}|^2 &: \frac{(r^2R(-14r^7-195r^6R+Rs^6+r^5(-1032R^2+62s^2)+r^4(-2480R^3+331Rs^2)+r^3 \\
& \quad (-2304R^4+704R^2s^2-58s^4)+r^2(-240R^3s^2+79Rs^4)+r(8R^2s^4-6s^6)))}{(-r^4+13r^3R+14r^2R^2-15rRs^2+s^4)^2} \\
|X_{81}X_{304}|^2 &: \frac{(-r^{14}-24r^{13}R-24rRs^{12}+s^{14}-8r^3Rs^8(16R^2-5s^2)+8r^{11}R(-170R^2+s^2)+ \\
& \quad r^2s^{10}(136R^2+s^2)-r^{12}(244R^2+s^2)+r^4s^6(144R^4-308R^2s^2-3s^4)+ \\
& \quad r^{10}(-4480R^4+168R^2s^2+3s^4)-8r^9(1088R^5-86R^3s^2+9Rs^4)+ \\
& \quad r^8(-9216R^6+656R^4s^2-600R^2s^4+3s^6)-16r^7(256R^7+72R^5s^2+111R^3s^4-13Rs^6)- \\
& \quad r^6(1792R^6s^2+2848R^4s^4-848R^2s^6+3s^8)-8r^5(272R^5s^4-130R^3s^6+17Rs^8))}{(r^6+9r^5R+16r^3R^3-9rRs^4+s^6+r^4(24R^2-s^2)-r^2(8R^2s^2+s^4))^2} \\
|X_{81}X_{306}|^2 &: - \left((r^{10}+16r^9R+20rRs^8-s^{10}-8r^3Rs^4(10R^2+s^2)+r^8(100R^2+11s^2)+16r^7 \right. \\
& \quad \left. (19R^3+5Rs^2)+r^6(448R^4+256R^2s^2-30s^4)+4r^5(64R^5+100R^3s^2-23Rs^4)+ \right. \\
& \quad \left. 2r^4(120R^4s^2-56R^2s^4+11s^6)-3r^2(20R^2s^6+s^8)) \right) / \\
& \quad (3r^4+9r^3R-7rRs^2+s^4+r^2(6R^2-4s^2))^2
\end{aligned}$$

$$|X_{81}X_{312}|^2:$$

$$\begin{aligned} & (-r^{10} - 8r^9R - 24rR s^8 + s^{10} - 8r^3R s^4(12R^2 + s^2) - r^8(4R^2 + 3s^2) + 8r^7(10R^3 + 7Rs^2) + \\ & r^6(64R^4 + 48R^2s^2 - 2s^4) - 16r^5(16R^5 + 3R^3s^2 + 3Rs^4) + r^4(-496R^4s^2 - 4R^2s^4 + 2s^6) + \\ & r^2(136R^2s^6 + 3s^8)) / (-r^4 + 7r^3R + 8r^2R^2 - 9rRs^2 + s^4)^2 \end{aligned}$$

$$|X_{81}X_{319}|^2:$$

$$\begin{aligned} & - \left((r^{10} + 16r^9R + 144rRs^8 - 9s^{10} + r^8(100R^2 + 11s^2) + 8r^7(38R^3 + 9Rs^2) + 2r^6 \right. \\ & (224R^4 + 88R^2s^2 - 39s^4) + 16r^5(16R^5 + 9R^3s^2 - 17Rs^4) - \\ & 2r^4(8R^4s^2 + 238R^2s^4 - 63s^6) + r^3(-384R^3s^4 + 72Rs^6) + 3r^2(8R^2s^6 - 17s^8)) / \\ & (r^4 + 5r^3R - 7rRs^2 + 3s^4 + 4r^2(R^2 - s^2))^2 \end{aligned}$$

$$\begin{aligned} |X_{81}X_{320}|^2: & \quad (-9r^{10} - 144r^9R - 16rRs^8 + s^{10} - 3r^8(300R^2 + 17s^2) - 24r^7(114R^3 + 7Rs^2) - \\ & 6r^6(672R^4 + 8R^2s^2 - 21s^4) + r^5(-2304R^5 + 240R^3s^2 + 400Rs^4) + \\ & 2r^4(72R^4s^2 + 254R^2s^4 - 39s^6) + 8r^3(48R^3s^4 - 13Rs^6) + r^2(-24R^2s^6 + 11s^8)) / \\ & (3r^4 + 15r^3R - 13rRs^2 + s^4 + 4r^2(3R^2 - s^2))^2 \end{aligned}$$

$$|X_{81}X_{321}|^2:$$

$$\begin{aligned} & \frac{1}{(-r^4 + r^3R + 2r^2R^2 - 3rRs^2 + s^4)^2} \\ & (-r^{10} - 12r^9R - 20rRs^8 + s^{10} + 2r^4s^4(-52R^2 + s^2) + 16r^3Rs^4(-4R^2 + s^2) + \\ & 32r^7R(-2R^2 + s^2) - 3r^8(16R^2 + s^2) + 2r^6(50R^2s^2 - s^4) + \\ & 16r^5(8R^3s^2 - 3Rs^4) + r^2(68R^2s^6 + 3s^8)) \end{aligned}$$

$$|X_{81}X_{345}|^2:$$

$$\begin{aligned} & (-r^{10} - 16r^9R - 24rRs^8 + s^{10} - 5r^8(20R^2 + 3s^2) - \\ & 16r^7(19R^3 + 8Rs^2) + r^6(-448R^4 - 464R^2s^2 + 34s^4) - 8r^5(32R^5 + 98R^3s^2 - 5Rs^4) - \\ & 2r^4(248R^4s^2 + 42R^2s^4 + 9s^6) + r^3(-96R^3s^4 + 64Rs^6) + r^2(136R^2s^6 - s^8)) / \\ & (5r^4 + 13r^3R - 9rRs^2 + s^4 + r^2(8R^2 - 6s^2))^2 \end{aligned}$$

$$|X_{81}X_{346}|^2:$$

$$\begin{aligned} & (-4r^8R^2 - 24rRs^8 + s^{10} - 12r^7R(4R^2 + s^2) + r^6(-192R^4 - 148R^2s^2 + 7s^4) - \\ & 8r^5(32R^5 + 52R^3s^2 - Rs^4) - r^4(496R^4s^2 + 44R^2s^4 + 9s^6) + r^3(-96R^3s^4 + 28Rs^6) + \\ & r^2(136R^2s^6 + s^8)) / (2r^4 + 10r^3R - 9rRs^2 + s^4 + r^2(8R^2 - 3s^2))^2 \end{aligned}$$

$$|X_{81}X_{350}|^2:$$

$$\begin{aligned} & (-r^{14} - 24r^{13}R - 24rRs^{12} + s^{14} + 8r^3Rs^8(32R^2 - 9s^2) + 5r^2s^{10}(24R^2 + s^2) - \\ & 40r^{11}R(34R^2 + s^2) - r^{12}(244R^2 + 5s^2) + r^{10}(-4480R^4 + 56R^2s^2 - 9s^4) + \\ & r^9(-8704R^5 + 1520R^3s^2 + 24Rs^4) + r^8(-9216R^6 + 6032R^4s^2 + 344R^2s^4 - 5s^6) - \\ & 16r^7(256R^7 - 632R^5s^2 - 21R^3s^4 - 3Rs^6) + r^6(6400R^6s^2 - 480R^4s^4 - 592R^2s^6 + 5s^8) - \\ & 8r^5(80R^5s^4 + 158R^3s^6 + 5Rs^8) + r^4(-2032R^4s^6 + 508R^2s^8 + 9s^{10})) / \\ & (r^6 + 9r^5R + 17rRs^4 - s^6 + r^4(24R^2 + s^2) + 2r^3(8R^3 - 11Rs^2) - r^2(32R^2s^2 + s^4))^2 \end{aligned}$$

$|X_{83}X_{85}|^2:$

$$\begin{aligned}
& - \left(\left(16 \left(r^{14} + 36 r^{13} R - s^{10} (-4 R^2 + s^2)^2 + r^{12} (576 R^2 + s^2) + 12 r^{11} (448 R^3 - R s^2) + r^{10} \right. \right. \right. \\
& \quad (32 256 R^4 - 676 R^2 s^2 - 3 s^4) + 4 r R s^8 (160 R^4 - 84 R^2 s^2 + 11 s^4) + 4 r^9 \\
& \quad (32 256 R^5 - 2152 R^3 s^2 - R s^4) + 4 r^3 R s^4 (16 384 R^6 - 9440 R^4 s^2 + 1384 R^2 s^4 - 25 s^6) + \\
& \quad r^8 (344 064 R^6 - 54 720 R^4 s^2 + 820 R^2 s^4 - 3 s^6) - \\
& \quad r^2 s^6 (9472 R^6 - 5024 R^4 s^2 + 664 R^2 s^4 + s^6) + \\
& \quad 16 r^7 (36 864 R^7 - 12 416 R^5 s^2 + 636 R^3 s^4 - 9 R s^6) + \\
& \quad r^6 (589 824 R^8 - 416 768 R^6 s^2 + 53 376 R^4 s^4 - 1940 R^2 s^6 + 3 s^8) + \\
& \quad 4 r^5 (65 536 R^9 - 116 736 R^7 s^2 + 34 816 R^5 s^4 - 2860 R^3 s^6 + 45 R s^8) + \\
& \quad \left. \left. \left. r^4 (-212 992 R^8 s^2 + 168 960 R^6 s^4 - 32 016 R^4 s^6 + 1716 R^2 s^8 + 3 s^{10}) \right) \right) \right) / \\
& (5 r^6 + 80 r^5 R - 640 r R^3 s^2 + r^4 (480 R^2 - s^2) + 5 s^4 (16 R^2 + s^2) + \\
& 16 r^3 (80 R^3 - 3 R s^2) + r^2 (1280 R^4 - 336 R^2 s^2 - s^4))^2)
\end{aligned}$$

 $|X_{83}X_{86}|^2:$

$$\begin{aligned}
& - \left(\left(16 r^2 (r^{12} + 28 r^{11} R - 16 R^2 s^{10} + 16 r R s^8 (20 R^2 - s^2) + 160 r^9 R (14 R^2 + s^2) + r^{10} \right. \right. \\
& \quad (336 R^2 + 9 s^2) + 2 r^8 (4480 R^4 + 574 R^2 s^2 - 11 s^4) + \\
& \quad 8 r^7 (2688 R^5 + 536 R^3 s^2 - 43 R s^4) + 2 r^6 (14 336 R^6 + 4544 R^4 s^2 - 966 R^2 s^4 - 23 s^6) + \\
& \quad 16 r^5 (1024 R^7 + 704 R^5 s^2 - 300 R^3 s^4 - 19 R s^6) + \\
& \quad r^4 (7168 R^6 s^2 - 5568 R^4 s^4 - 412 R^2 s^6 + 5 s^8) - \\
& \quad \left. \left. \left. 4 r^3 (896 R^5 s^4 + 32 R^3 s^6 - 39 R s^8) + r^2 (-832 R^4 s^6 + 12 R^2 s^8 + 21 s^{10}) \right) \right) \right) / \\
& (5 r^6 + 60 r^5 R - 180 r R s^4 + 25 s^6 + r^4 (240 R^2 + 19 s^2) + 8 r^3 (40 R^3 + 17 R s^2) + \\
& 5 r^2 (48 R^2 s^2 - 5 s^4))^2)
\end{aligned}$$

 $|X_{83}X_{88}|^2:$

$$\begin{aligned}
& (-9 r^{14} - 360 r^{13} R - 40 r R s^{12} + s^{14} + r^2 s^{10} (712 R^2 - 27 s^2) + r^{12} (-5940 R^2 + 51 s^2) - \\
& 72 r^{11} (730 R^3 - 19 R s^2) + r^4 s^6 (57 232 R^4 - 12 628 R^2 s^2 - 159 s^4) - \\
& 9 r^{10} (30 080 R^4 - 1848 R^2 s^2 - 15 s^4) - 8 r^9 (101 952 R^5 - 15 198 R^3 s^2 + 503 R s^4) - \\
& r^8 (1 336 320 R^6 - 507 024 R^4 s^2 + 19 288 R^2 s^4 + 21 s^6) - \\
& 16 r^7 (57 600 R^7 - 65 016 R^5 s^2 + 5667 R^3 s^4 - 241 R s^6) + \\
& r^6 (764 160 R^6 s^2 - 367 456 R^4 s^4 - 6048 R^2 s^6 - 227 s^8) + \\
& r^5 (-271 744 R^5 s^4 + 86 160 R^3 s^6 + 2440 R s^8) + r^3 (-7936 R^3 s^8 + 984 R s^{10}) / \\
& (15 r^6 + 45 r^5 R - 115 r R s^4 + 5 s^6 + 10 r^3 R (-120 R^2 + s^2) - \\
& r^4 (360 R^2 + 13 s^2) + r^2 (680 R^2 s^2 + 9 s^4))^2)
\end{aligned}$$

 $|X_{83}X_{89}|^2:$

$$\begin{aligned}
& - \left(\left(4 (9 r^{14} + 306 r^{13} R + 22 r R s^{12} - s^{14} + r^{12} (4401 R^2 - 3 s^2) - r^2 s^{10} (13 R^2 + 21 s^2) + \right. \right. \\
& \quad 36 r^{11} (965 R^3 - 6 R s^2) + 9 r^{10} (18 080 R^4 - 529 R^2 s^2 + s^4) + \\
& \quad r^4 s^6 (8684 R^4 - 2819 R^2 s^2 + 15 s^4) + 2 r^9 (226 368 R^5 - 22 404 R^3 s^2 + 617 R s^4) + \\
& \quad r^8 (693 504 R^6 - 198 612 R^4 s^2 + 3154 R^2 s^4 + 117 s^6) + \\
& \quad 16 r^7 (28 224 R^7 - 24 930 R^5 s^2 + 852 R^3 s^4 - 103 R s^6) + \\
& \quad r^6 (-275 520 R^6 s^2 + 77 368 R^4 s^4 + 7206 R^2 s^6 + 131 s^8) + \\
& \quad \left. \left. \left. r^5 (33 184 R^5 s^4 - 408 R^3 s^6 - 922 R s^8) + r^3 (-1940 R^3 s^8 + 456 R s^{10}) \right) \right) \right) / \\
& (30 r^6 + 225 r^5 R + 65 r R s^4 - 10 s^6 + r^4 (360 R^2 - 46 s^2) - \\
& 2 r^3 (120 R^3 + 151 R s^2) + r^2 (-40 R^2 s^2 + 42 s^4))^2)
\end{aligned}$$

$|X_{83}X_{99}|^2:$

$$\begin{aligned}
& - \left((16 (r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} - r^2 s^{10} (228 R^2 + 5 s^2) + r^{12} (336 R^2 + 5 s^2) + 8 \right. \\
& \quad r^3 R s^8 (64 R^2 + 9 s^2) + 8 r^{11} (280 R^3 + 9 R s^2) + \\
& \quad r^4 s^6 (1408 R^4 - 448 R^2 s^2 - 9 s^4) + r^{10} (8960 R^4 + 348 R^2 s^2 + 9 s^4) + \\
& \quad 4 r^9 (5376 R^5 + 112 R^3 s^2 + 9 R s^4) + r^8 (28672 R^6 - 1152 R^4 s^2 - 304 R^2 s^4 + 5 s^6) + \\
& \quad 16 r^7 (1024 R^7 - 192 R^5 s^2 - 140 R^3 s^4 - R s^6) - \\
& \quad \left. r^6 (1024 R^6 s^2 + 5632 R^4 s^4 - 488 R^2 s^6 + 5 s^8) + r^5 (-6144 R^5 s^4 + 2112 R^3 s^6 + 36 R s^8) \right) \Bigg) / \\
& \left((r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right. \\
& \quad \left. (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2 \right) \Bigg)
\end{aligned}$$

 $|X_{83}X_{141}|^2:$

$$\begin{aligned}
& (-9 r^{14} - 252 r^{13} R - 252 r R s^{12} + 9 s^{14} + 3 r^2 s^{10} (684 R^2 + 23 s^2) - 3 r^{12} (1008 R^2 + 23 s^2) - \\
& \quad 24 r^3 R s^8 (192 R^2 + 47 s^2) - 24 r^{11} (840 R^3 + 47 R s^2) + \\
& \quad r^{10} (-80640 R^4 - 6972 R^2 s^2 + 615 s^4) - 12 r^9 (16128 R^5 + 1616 R^3 s^2 - 709 R s^4) - \\
& \quad r^8 (258048 R^6 + 20352 R^4 s^2 - 43312 R^2 s^4 + 1373 s^6) - \\
& \quad 16 r^7 (9216 R^7 - 192 R^5 s^2 - 6188 R^3 s^4 + 875 R s^6) + \\
& \quad r^6 (9216 R^6 s^2 + 103936 R^4 s^4 - 44840 R^2 s^6 + 1373 s^8) + \\
& \quad r^5 (55296 R^5 s^4 - 45632 R^3 s^6 + 8508 R s^8) + r^4 (-12672 R^4 s^6 + 9280 R^2 s^8 - 615 s^{10})) \Bigg) / \\
& \left(4 (5 r^6 + 60 r^5 R + 60 r R s^4 - 5 s^6 + r^4 (240 R^2 - 11 s^2) + \right. \\
& \quad \left. 8 r^3 (40 R^3 - 13 R s^2) + r^2 (-240 R^2 s^2 + 11 s^4))^2 \right)
\end{aligned}$$

 $|X_{83}X_{142}|^2:$

$$\begin{aligned}
& (-9 r^{12} - 252 r^{11} R - 8 r R s^{10} + 4 R^2 s^{10} - 840 r^9 R (24 R^2 + s^2) - 3 r^{10} (1008 R^2 + 19 s^2) + \\
& \quad r^8 (-80640 R^4 - 4092 R^2 s^2 + 374 s^4) - 8 r^7 (24192 R^5 + 504 R^3 s^2 - 601 R s^4) + \\
& \quad r^6 (-258048 R^6 + 25728 R^4 s^2 + 21168 R^2 s^4 - 418 s^6) - \\
& \quad 16 r^5 (9216 R^7 - 4800 R^5 s^2 - 2140 R^3 s^4 + 249 R s^6) + \\
& \quad r^4 (58368 R^6 s^2 + 9984 R^4 s^4 - 10216 R^2 s^6 + 163 s^8) - \\
& \quad 4 r^3 (256 R^5 s^4 + 848 R^3 s^6 - 213 R s^8) + r^2 (-1152 R^4 s^6 + 320 R^2 s^8 - 21 s^{10})) \Bigg) / \\
& \left(4 (r + 4 R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2 \right)
\end{aligned}$$

 $|X_{83}X_{145}|^2:$

$$\begin{aligned}
& (4 (51 r^{10} + 620 r^9 R - 300 r R s^8 + 9 s^{10} + r^8 (1760 R^2 - 67 s^2) - 24 r^7 (240 R^3 + 31 R s^2) + \\
& \quad r^6 (-37120 R^4 + 372 R^2 s^2 + 94 s^4) - 32 r^5 (1568 R^5 - 673 R^3 s^2 - 10 R s^4) + r^4 \\
& \quad (49728 R^4 s^2 - 3704 R^2 s^4 - 38 s^6) - 8 r^3 (2388 R^3 s^4 - 13 R s^6) + r^2 (3508 R^2 s^6 + 15 s^8))) \Bigg) / \\
& (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2))^2
\end{aligned}$$

$$|X_{83}X_{190}|^2:$$

$$\begin{aligned} & - \left((16 (4 r^{14} + 112 r^{13} R + 44 r R s^{12} - s^{14} + 288 r^3 R s^8 (23 R^2 - s^2) + 4 r^{12} (336 R^2 - s^2) + \right. \\ & \quad 7 r^2 s^{10} (-108 R^2 + s^2) + 16 r^{11} (560 R^3 - 19 R s^2) + 2 r^4 s^6 (-16 032 R^4 + 2066 R^2 s^2 + s^4) + \\ & \quad r^{10} (35 840 R^4 - 4688 R^2 s^2 + 3 s^4) + 4 r^9 (21 504 R^5 - 7872 R^3 s^2 + 107 R s^4) + \\ & \quad r^8 (114 688 R^6 - 107 008 R^4 s^2 + 7020 R^2 s^4 + 19 s^6) + \\ & \quad 16 r^7 (4096 R^7 - 11 264 R^5 s^2 + 2610 R^3 s^4 - 29 R s^6) - \\ & \quad 2 r^6 (59 392 R^6 s^2 - 51 424 R^4 s^4 + 3446 R^2 s^6 - s^8) + \\ & \quad \left. 8 r^5 (10 752 R^5 s^4 - 3584 R^3 s^6 + 51 R s^8) \right) / \\ & \quad (15 r^6 + 180 r^5 R + 100 r R s^4 - 5 s^6 + r^4 (720 R^2 - 23 s^2) + \\ & \quad \left. 8 r^3 (120 R^3 - 29 R s^2) - 7 r^2 (80 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

$$|X_{83}X_{192}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{14} + 252 r^{13} R + 348 r R s^{12} - 9 s^{14} + 120 r^3 R s^8 (312 R^2 - 11 s^2) + 27 r^{12} (112 R^2 - s^2) + \right. \\ & \quad 24 r^{11} (840 R^3 - 47 R s^2) + r^{10} (80 640 R^4 - 15 108 R^2 s^2 - 7 s^4) + 4 r^9 (48 384 R^5 - \\ & \quad 23 952 R^3 s^2 + 361 R s^4) + r^8 (258 048 R^6 - 317 568 R^4 s^2 + 24 816 R^2 s^4 + 29 s^6) + \\ & \quad 16 r^7 (9216 R^7 - 33 216 R^5 s^2 + 9240 R^3 s^4 - 119 R s^6) - r^6 (353 280 R^6 s^2 - \\ & \quad 370 176 R^4 s^4 + 27 576 R^2 s^6 + 29 s^8) + 4 r^5 (81 664 R^5 s^4 - 29 648 R^3 s^6 + 449 R s^8) + \\ & \quad \left. r^4 (-150 144 R^4 s^6 + 18 592 R^2 s^8 + 7 s^{10}) + r^2 (-5092 R^2 s^{10} + 27 s^{12}) \right) / \\ & \quad (5 r^6 + 60 r^5 R - 20 r R s^4 + 5 s^6 + r^4 (240 R^2 - s^2) + 8 r^3 (40 R^3 - 3 R s^2) - r^2 (80 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{83}X_{194}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{18} + 324 r^{17} R + 324 r R s^{16} - 9 s^{18} + 288 r^3 R s^{12} (87 R^2 - 2 s^2) + 9 r^{16} (576 R^2 - s^2) + \right. \\ & \quad 9 r^2 s^{14} (-468 R^2 + s^2) + 576 r^{15} (84 R^3 - R s^2) + 4 r^{14} (72 576 R^4 - 2781 R^2 s^2 - 13 s^4) - \\ & \quad 16 r^5 R s^8 (5184 R^4 - 298 R^2 s^2 + 29 s^4) + 16 r^{13} (72 576 R^5 - 6606 R^3 s^2 - 29 R s^4) - \\ & \quad 64 r^7 R s^4 (10 368 R^6 - 14 224 R^4 s^2 + 1405 R^2 s^4 - 5 s^6) + \\ & \quad 4 r^{12} (774 144 R^6 - 143 280 R^4 s^2 + 370 R^2 s^4 - 3 s^6) + \\ & \quad 4 r^6 s^6 (158 976 R^6 - 57 408 R^4 s^2 + 1613 R^2 s^4 + 3 s^6) + \\ & \quad 32 r^{11} (165 888 R^7 - 57 888 R^5 s^2 + 899 R^3 s^4 + 10 R s^6) - \\ & \quad 2 r^8 s^2 (663 552 R^8 + 257 024 R^6 s^2 - 204 736 R^4 s^4 + 6504 R^2 s^6 + 11 s^8) + \\ & \quad r^{10} (5 308 416 R^8 - 3 492 864 R^6 s^2 + 95 488 R^4 s^4 + 7732 R^2 s^6 + 22 s^8) + \\ & \quad 8 r^9 (294 912 R^9 - 433 152 R^7 s^2 - 640 R^5 s^4 + 10 056 R^3 s^6 - 29 R s^8) + \\ & \quad \left. r^4 (-57 024 R^4 s^{10} + 5192 R^2 s^{12} + 52 s^{14}) \right) / \\ & \quad (5 r^8 + 80 r^7 R - 80 r R s^6 + 5 s^8 + 4 r^6 (120 R^2 + s^2) + 16 r^5 (80 R^3 - 3 R s^2) + \\ & \quad \left. 2 r^4 (640 R^4 - 288 R^2 s^2 - s^4) - 16 r^3 (80 R^3 s^2 - 3 R s^4) + 4 r^2 (120 R^2 s^4 + s^6) \right)^2 \end{aligned}$$

$$|X_{83}X_{200}|^2:$$

$$\begin{aligned} & (9 r^{12} + 184 r^{11} R + 64 R^2 s^{10} + 16 r R s^8 (-120 R^2 + s^2) + \\ & \quad r^{10} (1376 R^2 + 21 s^2) + 40 r^9 (88 R^3 + 3 R s^2) - 2 r^8 (4480 R^4 + 272 R^2 s^2 - 5 s^4) + \\ & \quad r^2 s^6 (19 008 R^4 - 304 R^2 s^2 + s^4) - 32 r^3 R s^4 (2672 R^4 - 154 R^2 s^2 + s^4) - \\ & \quad 8 r^7 (9728 R^5 + 168 R^3 s^2 + 31 R s^4) - 2 r^6 (90 112 R^6 - 15 264 R^4 s^2 + 200 R^2 s^4 + 3 s^6) - \\ & \quad 8 r^5 (18 432 R^7 - 18 112 R^5 s^2 + 296 R^3 s^4 - 35 R s^6) + \\ & \quad r^4 (181 248 R^6 s^2 - 40 576 R^4 s^4 - 128 R^2 s^6 - 3 s^8) \Big) / \\ & \quad \left((r - 2 R)^2 (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2)) \right)^2 \end{aligned}$$

$$|X_{83}X_{210}|^2: \quad \left(-15 r^{11} - 364 r^{10} R + 49 R s^{10} + 23 r^9 (-160 R^2 + s^2) + \right. \\
35 r s^8 (-40 R^2 + s^2) + r^8 (-19840 R^3 + 729 R s^2) - 2 r^7 (30080 R^4 - 4060 R^2 s^2 + 63 s^4) - \\
4 r^6 (24320 R^5 - 10436 R^3 s^2 + 367 R s^4) - 2 r^5 (32768 R^6 - 50688 R^4 s^2 + 5236 R^2 s^4 - 83 s^6) + \\
2 r^4 (47104 R^5 s^2 - 19312 R^3 s^4 + 767 R s^6) + \\
\left. r^3 (-50944 R^4 s^4 + 7304 R^2 s^6 - 147 s^8) + 16 r^2 (793 R^3 s^6 - 45 R s^8) \right) / \\
\left(9 R (5 r^4 + 40 r^3 R - 40 r R s^2 + 5 s^4 + r^2 (80 R^2 - 6 s^2)) \right)^2$$

$$|X_{83}X_{213}|^2: \quad - \left(\left((r^4 + 8 r^3 R + s^4 + 2 r^2 (8 R^2 + s^2))^2 (r^{10} + 20 r^9 R + 928 r^3 R^3 s^4 + 28 r R s^8 - s^{10} + \right. \right. \\
r^8 (160 R^2 + 3 s^2) + 16 r^7 (40 R^3 - R s^2) + 2 r^6 (640 R^4 - 186 R^2 s^2 + s^4) + 32 r^5 \\
(32 R^5 - 45 R^3 s^2 + 2 R s^4) - 2 r^4 (800 R^4 s^2 - 156 R^2 s^4 + s^6) - r^2 (244 R^2 s^6 + 3 s^8) \Big) \Big) / \\
\left(5 r^8 + 80 r^7 R + 60 r R s^6 - 5 s^8 + 6 r^6 (80 R^2 - s^2) + 4 r^5 (320 R^3 - 17 R s^2) + \right. \\
\left. 256 r^4 (5 R^4 - R^2 s^2) - 8 r^3 (40 R^3 s^2 + 3 R s^4) + r^2 (-160 R^2 s^4 + 6 s^6) \right)^2$$

$$|X_{83}X_{238}|^2: \quad \frac{(r^4 + 8 r^3 R + s^4 + 2 r^2 (8 R^2 + s^2))^2 (21 r^6 + 152 r^5 R - 24 r R s^4 + s^6 + r^4 (208 R^2 - 37 s^2) - 64 r^3 R (4 R^2 + s^2) + r^2 (144 R^2 s^2 + 7 s^4))}{(15 r^6 + 180 r^5 R + 100 r R s^4 - 5 s^6 + r^4 (720 R^2 - 23 s^2) + 8 r^3 (120 R^3 - 29 R s^2) - 7 r^2 (80 R^2 s^2 - 3 s^4))^2}$$

$$|X_{83}X_{239}|^2: \quad - \left(\left(4 (r^2 + 4 r R - 3 s^2)^2 (r^{10} + 20 r^9 R + 928 r^3 R^3 s^4 + 28 r R s^8 - s^{10} + r^8 (160 R^2 + 3 s^2) + \right. \right. \\
16 r^7 (40 R^3 - R s^2) + 2 r^6 (640 R^4 - 186 R^2 s^2 + s^4) + 32 r^5 (32 R^5 - 45 R^3 s^2 + 2 R s^4) - \\
2 r^4 (800 R^4 s^2 - 156 R^2 s^4 + s^6) - r^2 (244 R^2 s^6 + 3 s^8) \Big) \Big) / \\
\left(15 r^6 + 180 r^5 R + 100 r R s^4 - 5 s^6 + r^4 (720 R^2 - 23 s^2) + \right. \\
\left. 8 r^3 (120 R^3 - 29 R s^2) - 7 r^2 (80 R^2 s^2 - 3 s^4) \right)^2$$

$$|X_{83}X_{244}|^2: \quad \left(-11 r^{14} - 552 r^{13} R - 48 r R s^{12} + s^{14} - 21 r^2 s^{10} (-48 R^2 + s^2) - r^{12} (9696 R^2 + 17 s^2) + \right. \\
r^{11} (-86080 R^3 + 1416 R s^2) + r^4 s^6 (94272 R^4 - 13664 R^2 s^2 - 67 s^4) + \\
r^{10} (-433920 R^4 + 28976 R^2 s^2 + 17 s^4) - 128 r^9 (9888 R^5 - 1745 R^3 s^2 + 25 R s^4) + \\
r^8 (-1998848 R^6 + 854592 R^4 s^2 - 34112 R^2 s^4 + 19 s^6) - \\
16 r^7 (82944 R^7 - 101024 R^5 s^2 + 12584 R^3 s^4 - 153 R s^6) + \\
r^6 (1188864 R^6 s^2 - 559744 R^4 s^4 + 14944 R^2 s^6 - 49 s^8) - \\
8 r^5 (55872 R^5 s^4 - 14224 R^3 s^6 - 43 R s^8) + r^3 (-12352 R^3 s^8 + 872 R s^{10}) \Big) / \\
\left(-5 r^6 + 30 r^5 R + 110 r R s^4 - 5 s^6 + r^4 (480 R^2 + s^2) + \right. \\
\left. 28 r^3 (40 R^3 - 3 R s^2) + r^2 (-640 R^2 s^2 + s^4) \right)^2$$

$|X_{83}X_{304}|^2:$

$$\begin{aligned}
& - \left((16 (r^{18} + 36 r^{17} R + 36 r R s^{16} - s^{18} + 16 r^3 R s^{12} (212 R^2 - 7 s^2) + r^{16} (576 R^2 - s^2) + 24 r^{15} \right. \\
& \quad (224 R^3 - 3 R s^2) + 4 r^{14} (8064 R^4 - 365 R^2 s^2 - s^4) + 4 r^4 s^{10} (-3712 R^4 + 506 R^2 s^2 + s^4) + \\
& \quad 24 r^5 R s^8 (1984 R^4 - 684 R^2 s^2 + 9 s^4) + 8 r^{13} (16128 R^5 - 1804 R^3 s^2 + 11 R s^4) + \\
& \quad 8 r^7 R s^4 (26624 R^6 - 28224 R^4 s^2 + 4944 R^2 s^4 - 61 s^6) + \\
& \quad 4 r^{12} (86016 R^6 - 20400 R^4 s^2 + 734 R^2 s^4 + s^6) - \\
& \quad 4 r^6 s^6 (29696 R^6 - 19040 R^4 s^2 + 1255 R^2 s^4 + s^6) + \\
& \quad 32 r^{11} (18432 R^7 - 8672 R^5 s^2 + 894 R^3 s^4 - 11 R s^6) - \\
& \quad 2 r^8 s^2 (139264 R^8 - 220160 R^6 s^2 + 76640 R^4 s^4 - 4112 R^2 s^6 + 3 s^8) + \\
& \quad 2 r^{10} (294912 R^8 - 280064 R^6 s^2 + 68224 R^4 s^4 - 3462 R^2 s^6 + 3 s^8) + \\
& \quad 8 r^9 (32768 R^9 - 76800 R^7 s^2 + 43264 R^5 s^4 - 5984 R^3 s^6 + 81 R s^8) + \\
& \quad \left. r^2 (-484 R^2 s^{14} + s^{16}) \right) / \\
& (5 r^8 + 80 r^7 R - 48 r^3 R s^4 + 80 r R s^6 - 5 s^8 + 6 r^6 (80 R^2 - s^2) + 16 r^5 (80 R^3 - 3 R s^2) + \\
& \quad 32 r^4 (40 R^4 - 3 R^2 s^2) + r^2 (-320 R^2 s^4 + 6 s^6))^2)
\end{aligned}$$

 $|X_{83}X_{306}|^2:$

$$\begin{aligned}
& - \left((4 (r^{14} + 24 r^{13} R + 128 r R s^{12} - 4 s^{14} + 80 r^3 R s^8 (84 R^2 + s^2) - 12 r^2 s^{10} (116 R^2 + s^2) + \right. \\
& \quad r^{12} (244 R^2 + 17 s^2) + 16 r^{11} (85 R^3 + 18 R s^2) + r^{10} (4480 R^4 + 2088 R^2 s^2 - 226 s^4) + \\
& \quad 16 r^9 (544 R^5 + 525 R^3 s^2 - 154 R s^4) + 2 r^8 (4608 R^6 + 9912 R^4 s^2 - 5096 R^2 s^4 + 191 s^6) + \\
& \quad 16 r^7 (256 R^7 + 1608 R^5 s^2 - 1177 R^3 s^4 + 193 R s^6) + \\
& \quad r^6 (14080 R^6 s^2 - 11808 R^4 s^4 + 7368 R^2 s^6 - 291 s^8) + \\
& \quad 8 r^5 (432 R^5 s^4 + 38 R^3 s^6 - 175 R s^8) + r^4 (-13584 R^4 s^6 + 92 R^2 s^8 + 101 s^{10})) / \\
& (15 r^6 + 150 r^5 R + 70 r R s^4 - 5 s^6 + r^4 (480 R^2 - 23 s^2) + 4 r^3 (120 R^3 - 49 R s^2) + \\
& \quad \left. r^2 (-320 R^2 s^2 + 21 s^4))^2)
\end{aligned}$$

 $|X_{83}X_{312}|^2:$

$$\begin{aligned}
& - \left((16 (r^{14} + 24 r^{13} R + 36 r R s^{12} - s^{14} + 16 r^3 R s^8 (193 R^2 - 2 s^2) + r^{12} (244 R^2 + s^2) - \right. \\
& \quad r^2 s^{10} (476 R^2 + s^2) + 8 r^{11} (170 R^3 - 7 R s^2) + r^{10} (4480 R^4 - 968 R^2 s^2 - 3 s^4) + \\
& \quad 4 r^9 (2176 R^5 - 1484 R^3 s^2 + 39 R s^4) + r^8 (9216 R^6 - 17552 R^4 s^2 + 1700 R^2 s^4 - 3 s^6) + \\
& \quad 8 r^7 (512 R^7 - 3184 R^5 s^2 + 976 R^3 s^4 - 21 R s^6) + \\
& \quad r^6 (-14592 R^6 s^2 + 18848 R^4 s^4 - 1196 R^2 s^6 + 3 s^8) + \\
& \quad 8 r^5 (2320 R^5 s^4 - 734 R^3 s^6 + 5 R s^8) + r^4 (-10576 R^4 s^6 + 792 R^2 s^8 + 3 s^{10})) / \\
& (5 r^6 - 80 r R s^4 + 5 s^6 - r^4 (240 R^2 + s^2) + r^3 (-640 R^3 + 48 R s^2) + r^2 (400 R^2 s^2 - s^4))^2)
\end{aligned}$$

 $|X_{83}X_{319}|^2:$

$$\begin{aligned}
& - \left((16 (r^{14} + 28 r^{13} R + 264 r R s^{12} - 9 s^{14} + r^{12} (336 R^2 + 13 s^2) + 16 r^3 R s^8 (592 R^2 + 33 s^2) - \right. \\
& \quad r^2 s^{10} (2464 R^2 + 45 s^2) + 64 r^{11} (35 R^3 + 4 R s^2) + r^{10} (8960 R^4 + 2108 R^2 s^2 - 111 s^4) + 16 \\
& \quad r^9 (1344 R^5 + 588 R^3 s^2 - 107 R s^4) + r^8 (28672 R^6 + 24448 R^4 s^2 - 9948 R^2 s^4 + 285 s^6) + \\
& \quad 16 r^7 (1024 R^7 + 2240 R^5 s^2 - 1664 R^3 s^4 + 209 R s^6) + \\
& \quad r^6 (23552 R^6 s^2 - 31680 R^4 s^4 + 12020 R^2 s^6 - 357 s^8) - \\
& \quad 4 r^5 (3200 R^5 s^4 - 2432 R^3 s^6 + 661 R s^8) + r^4 (-11584 R^4 s^6 - 2532 R^2 s^8 + 223 s^{10})) / \\
& (5 r^6 + 60 r^5 R + 140 r R s^4 - 15 s^6 + 3 r^4 (80 R^2 - 7 s^2) + 8 r^3 (40 R^3 - 23 R s^2) + \\
& \quad \left. r^2 (-400 R^2 s^2 + 23 s^4))^2)
\end{aligned}$$

$$|X_{83}X_{320}|^2:$$

$$\begin{aligned} & - \left((16 (9 r^{14} + 252 r^{13} R + 24 r R s^{12} - s^{14} - 128 r^3 R s^8 (7 R^2 - 2 s^2) + 576 r^{11} R (35 R^2 + s^2) + \right. \\ & \quad 9 r^{12} (336 R^2 + 5 s^2) - r^2 s^{10} (96 R^2 + 13 s^2) + r^{10} (80 640 R^4 + 1692 R^2 s^2 - 223 s^4) + \\ & \quad 3 r^4 s^6 (2112 R^4 - 716 R^2 s^2 + 37 s^4) + 16 r^9 (12 096 R^5 - 468 R^3 s^2 - 187 R s^4) + \\ & \quad 3 r^8 (86 016 R^6 - 18 816 R^4 s^2 - 4404 R^2 s^4 + 119 s^6) + \\ & \quad 32 r^7 (4608 R^7 - 3744 R^5 s^2 - 596 R^3 s^4 + 117 R s^6) + \\ & \quad r^6 (-82 944 R^6 s^2 + 1088 R^4 s^4 + 11 412 R^2 s^6 - 285 s^8) + \\ & \quad \left. 4 r^5 (384 R^5 s^4 + 2112 R^3 s^6 - 481 R s^8) \right) / \\ & (15 r^6 + 180 r^5 R + 100 r R s^4 - 5 s^6 + r^4 (720 R^2 - 23 s^2) + \\ & \quad 8 r^3 (120 R^3 - 29 R s^2) - 7 r^2 (80 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

$$|X_{83}X_{321}|^2:$$

$$\begin{aligned} & - \left((16 (r^2 + 3 r R - s^2)^2 (r^{10} + 20 r^9 R + 928 r^3 R^3 s^4 + 28 r R s^8 - s^{10} + r^8 (160 R^2 + 3 s^2) + \right. \\ & \quad 16 r^7 (40 R^3 - R s^2) + 2 r^6 (640 R^4 - 186 R^2 s^2 + s^4) + 32 r^5 (32 R^5 - 45 R^3 s^2 + 2 R s^4) - \\ & \quad \left. 2 r^4 (800 R^4 s^2 - 156 R^2 s^4 + s^6) - r^2 (244 R^2 s^6 + 3 s^8) \right) / \\ & (5 r^6 + 30 r^5 R - r^4 s^2 - 50 r R s^4 + 5 s^6 - 4 r^3 (40 R^3 - 3 R s^2) + r^2 (160 R^2 s^2 - s^4))^2 \end{aligned}$$

$$|X_{83}X_{345}|^2:$$

$$\begin{aligned} & - \left((16 (4 r^{12} R^2 + 36 r R s^{12} - s^{14} + 8 r^3 R s^8 (386 R^2 - 11 s^2) + 20 r^{11} (4 R^3 - R s^2) + 5 \right. \\ & \quad r^{10} (128 R^4 - 68 R^2 s^2 - 15 s^4) + 2 r^4 s^6 (-5288 R^4 + 628 R^2 s^2 + 7 s^4) + \\ & \quad 16 r^9 (160 R^5 - 156 R^3 s^2 - 35 R s^4) + r^8 (5120 R^6 - 9680 R^4 s^2 - 852 R^2 s^4 + 115 s^6) + \\ & \quad 4 r^7 (1024 R^7 - 4768 R^5 s^2 + 1072 R^3 s^4 + 127 R s^6) - \\ & \quad 2 r^6 (7296 R^6 s^2 - 9104 R^4 s^4 + 188 R^2 s^6 + 27 s^8) + \\ & \quad \left. 4 r^5 (4640 R^5 s^4 - 1784 R^3 s^6 - 25 R s^8) + r^2 (-476 R^2 s^{10} + s^{12}) \right) / \\ & (25 r^6 + 240 r^5 R + 80 r R s^4 - 5 s^6 + 5 r^4 (144 R^2 - 7 s^2) + 32 r^3 (20 R^3 - 9 R s^2) + \\ & \quad r^2 (-400 R^2 s^2 + 31 s^4))^2 \end{aligned}$$

$$|X_{83}X_{346}|^2:$$

$$\begin{aligned} & - \left((4 (r^{14} + 28 r^{13} R - 1904 r^2 R^2 s^{10} + 144 r R s^{12} - 4 s^{14} + 16 r^3 R s^8 (772 R^2 - 15 s^2) + \right. \\ & \quad r^{12} (336 R^2 - 9 s^2) + 8 r^{11} (280 R^3 - 33 R s^2) + r^{10} (8960 R^4 - 3012 R^2 s^2 - 38 s^4) + \\ & \quad 224 r^9 (96 R^5 - 78 R^3 s^2 - R s^4) + 2 r^8 (14 336 R^6 - 27 456 R^4 s^2 + 1172 R^2 s^4 + 53 s^6) + \\ & \quad 8 r^7 (2048 R^7 - 11 136 R^5 s^2 + 3052 R^3 s^4 + 71 R s^6) - \\ & \quad r^6 (58 368 R^6 s^2 - 74 112 R^4 s^4 + 3092 R^2 s^6 + 91 s^8) + \\ & \quad \left. 4 r^5 (18 560 R^5 s^4 - 6504 R^3 s^6 - 35 R s^8) + r^4 (-42 304 R^4 s^6 + 4096 R^2 s^8 + 35 s^{10}) \right) / \\ & (10 r^6 + 120 r^5 R + 80 r R s^4 - 5 s^6 + r^4 (480 R^2 - 17 s^2) + 16 r^2 s^2 (-25 R^2 + s^2) + \\ & \quad 8 r^3 (80 R^3 - 21 R s^2))^2 \end{aligned}$$

$$|X_{83}X_{350}|^2:$$

$$\begin{aligned} & - \left((16 (r^{18} + 36 r^{17} R + 32 r R s^{16} - s^{18} + 76 r^4 R^2 s^{10} (64 R^2 - 7 s^2) + 32 r^{15} R (168 R^2 + s^2) + \right. \\ & \quad 3 r^{16} (192 R^2 + s^2) + 16 r^3 R s^{12} (52 R^2 + 3 s^2) - r^2 s^{14} (320 R^2 + 3 s^2) + \\ & \quad 4 r^{14} (8064 R^4 - 85 R^2 s^2) - 4 r^5 R s^8 (7680 R^4 - 1296 R^2 s^2 + 17 s^4) + \\ & \quad 4 r^{13} (32256 R^5 - 2040 R^3 s^2 - 11 R s^4) + 4 r^{12} (86016 R^6 - 15920 R^4 s^2 - 89 R^2 s^4 - 2 s^6) + \\ & \quad 96 r^7 R s^4 (1792 R^6 + 224 R^4 s^2 - 119 R^2 s^4 - s^6) + \\ & \quad 16 r^{11} R (36864 R^6 - 16448 R^4 s^2 + 126 R^2 s^4 + s^6) + \\ & \quad 4 r^6 s^6 (5888 R^6 - 6656 R^4 s^2 + 407 R^2 s^4 + 2 s^6) + \\ & \quad 2 r^{10} (294912 R^8 - 308736 R^6 s^2 + 16448 R^4 s^4 + 636 R^2 s^6 - 3 s^8) + \\ & \quad 2 r^8 s^2 (-204800 R^8 + 130560 R^6 s^2 + 9248 R^4 s^4 - 772 R^2 s^6 + 3 s^8) + \\ & \quad \left. 4 r^9 (65536 R^9 - 194560 R^7 s^2 + 35584 R^5 s^4 + 1992 R^3 s^6 + 11 R s^8) \right) / \\ & (5 r^8 + 80 r^7 R - 120 r R s^6 + 5 s^8 + 4 r^6 (120 R^2 + s^2) + 8 r^5 (160 R^3 - 11 R s^2) + \\ & \quad 2 r^4 (640 R^4 - 448 R^2 s^2 - s^4) - 96 r^3 (20 R^3 s^2 - R s^4) + 4 r^2 (200 R^2 s^4 + s^6))^2 \end{aligned}$$

$$|X_{85}X_{86}|^2:$$

$$\frac{16 s^4 (r^6 + 12 r^5 R + 16 r^3 R (3 R^2 + s^2) + 3 r^4 (16 R^2 + s^2) + (-4 R^2 s + s^3)^2 + r^2 (-128 R^4 + 56 R^2 s^2 + 3 s^4) - 4 r (64 R^5 - 44 R^3 s^2 + 7 R s^4))}{(r^4 + 12 r^3 R + 6 r^2 (8 R^2 + s^2) + 5 s^2 (16 R^2 + s^2) + r (64 R^3 + 44 R s^2))^2}$$

$$|X_{85}X_{88}|^2:$$

$$\begin{aligned} & (-9 r^{10} - 144 r^9 R + s^{10} - 72 r^7 R (10 R^2 + s^2) - 27 r^8 (28 R^2 + s^2) + \\ & \quad 2 r^6 (2880 R^4 - 72 R^2 s^2 - 13 s^4) + 16 r^5 (864 R^5 - 207 R^3 s^2 - 11 R s^4) - \\ & \quad 6 r^4 (1536 R^6 + 552 R^4 s^2 - 322 R^2 s^4 + s^6) - 8 r^3 (4608 R^7 - 2736 R^5 s^2 + 436 R^3 s^4 + 21 R s^6) + \\ & \quad r^2 (2304 R^6 s^2 - 2816 R^4 s^4 + 744 R^2 s^6 + 3 s^8) + 48 r (2 R^3 s^6 - R s^8)) / \\ & (3 r^4 + 9 r^3 R + 16 R^2 s^2 + s^4 + r^2 (-72 R^2 + 4 s^2) - r (240 R^3 + 7 R s^2))^2 \end{aligned}$$

$$|X_{85}X_{89}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 198 r^9 R - s^{10} + 180 r^7 R (49 R^2 + s^2) + 27 r^8 (67 R^2 + s^2) + \right. \\ & \quad r^6 (24480 R^4 + 117 R^2 s^2 + 26 s^4) + 8 r^5 (4752 R^5 - 99 R^3 s^2 + 37 R s^4) + 3 r^4 \\ & \quad (9984 R^6 - 156 R^4 s^2 + 61 R^2 s^4 + 2 s^6) + 4 r^3 (2304 R^7 - 72 R^5 s^2 + 179 R^3 s^4 - 45 R s^6) - \\ & \quad \left. r^2 (576 R^6 s^2 - 560 R^4 s^4 + 45 R^2 s^6 + 3 s^8) - 6 r (8 R^3 s^6 - 3 R s^8) \right) / \\ & (6 r^4 + 45 r^3 R + 4 r^2 (18 R^2 + s^2) - r (48 R^3 + 19 R s^2) - 2 (16 R^2 s^2 + s^4))^2 \end{aligned}$$

$$|X_{85}X_{99}|^2:$$

$$-\frac{64 R s^4 (2 r^5 + 21 r^4 R - 4 R^3 s^2 + r^3 (76 R^2 - 6 s^2) + 7 r^2 (16 R^3 - R s^2) + 8 r (8 R^4 - R^2 s^2))}{(r^2 + 8 r R + 16 R^2 + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{85}X_{141}|^2:$$

$$\begin{aligned} & (-r^{10} - 28 r^9 R + s^6 (-16 R^2 + s^2))^2 + \\ & \quad r^8 (-336 R^2 + 5 s^2) - 16 r^7 (140 R^3 - 9 R s^2) + r^6 (-8960 R^4 + 1572 R^2 s^2 + 6 s^4) - \\ & \quad 8 r^5 (2688 R^5 - 1064 R^3 s^2 + 17 R s^4) - 2 r^4 (14336 R^6 - 12096 R^4 s^2 + 980 R^2 s^4 + 3 s^6) - \\ & \quad 16 r^3 (1024 R^7 - 2112 R^5 s^2 + 496 R^3 s^4 - 9 R s^6) + \\ & \quad r^2 (17408 R^6 s^2 - 11904 R^4 s^4 + 964 R^2 s^6 - 5 s^8) - 20 r (256 R^5 s^4 - 64 R^3 s^6 + 3 R s^8)) / \\ & (4 (r^4 + 12 r^3 R + 48 r^2 R^2 + 64 r R^3 - 4 r R s^2 - 16 R^2 s^2 - s^4))^2 \end{aligned}$$

$$|X_{85}X_{142}|^2:$$

$$\begin{aligned} & \frac{1}{4 (r+4 R)^2 (r^2 + 8 r R + 16 R^2 + s^2)^2} \\ & (-r^8 - 28 r^7 R + r^6 (-336 R^2 + s^2) + r^5 (-2240 R^3 + 48 R s^2) + 4 (16 R^3 s - 3 R s^3))^2 + \\ & \quad r^4 (-8960 R^4 + 612 R^2 s^2 + 5 s^4) - 4 r^3 (5376 R^5 - 848 R^3 s^2 + 7 R s^4) + \\ & \quad r^2 (-28672 R^6 + 8832 R^4 s^2 - 488 R^2 s^4 + 3 s^6) - 8 r (2048 R^7 - 1152 R^5 s^2 + 160 R^3 s^4 - 3 R s^6)) \end{aligned}$$

$$|X_{85}X_{145}|^2:$$

$$\frac{4 \left(3 r^6 + 44 r^5 R + 7 r^4 (32 R^2 + s^2) + 8 r^3 (48 R^3 + 5 R s^2) + (8 R^2 s + s^3)^2 + r^2 (-256 R^4 - 12 R^2 s^2 + 5 s^4) - 4 r (256 R^5 + 56 R^3 s^2 + 3 R s^4) \right)}{(r^2 + 8 r R + 16 R^2 + s^2)^2}$$

$$|X_{85}X_{190}|^2: - \left(\left(16 (r^{10} + 28 r^9 R - 16 R^4 s^6 + 28 r^7 R (80 R^2 + s^2) + 3 r^8 (112 R^2 + s^2) + r^6 (8960 R^4 - 52 R^2 s^2 + 3 s^4) + 4 r^5 (5376 R^5 - 368 R^3 s^2 + 7 R s^4) + r^4 (28672 R^6 - 6272 R^4 s^2 + 128 R^2 s^4 + s^6) + 4 r^3 (4096 R^7 - 2560 R^5 s^2 + 120 R^3 s^4 - R s^6) - 4 r^2 (1280 R^6 s^2 - 256 R^4 s^4 + 3 R^2 s^6) + 32 r (16 R^5 s^4 - R^3 s^6) \right) \right) / \left(3 r^4 + 36 r^3 R - s^2 (16 R^2 + s^2) + 4 r R (48 R^2 + s^2) + 2 r^2 (72 R^2 + s^2) \right)^2$$

$$|X_{85}X_{192}|^2:$$

$$- \left(\left(4 (r^{10} + 28 r^9 R - s^6 (8 R^2 + s^2)^2 + 3 r^8 (112 R^2 + s^2) + 8 r^7 (280 R^3 + 3 R s^2) + 2 r^6 (4480 R^4 - 66 R^2 s^2 + s^4) + 12 r R s^4 (128 R^4 + 24 R^2 s^2 + s^4) + 24 r^5 (896 R^5 - 88 R^3 s^2 - R s^4) + r^4 (28672 R^6 - 8832 R^4 s^2 - 328 R^2 s^4 - 2 s^6) + 8 r^3 (2048 R^7 - 1920 R^5 s^2 - 108 R^3 s^4 - R s^6) + r^2 (-9216 R^6 s^2 + 128 R^4 s^4 + 124 R^2 s^6 - 3 s^8) \right) \right) / \left(r^4 + 12 r^3 R + 16 R^2 s^2 + s^4 + 2 r^2 (24 R^2 + s^2) + 4 r (16 R^3 + 3 R s^2) \right)^2$$

$$|X_{85}X_{194}|^2:$$

$$- \left(\left(4 (r^{14} + 36 r^{13} R - s^{10} (8 R^2 + s^2)^2 + 112 r^{11} R (48 R^2 + s^2) + r^{12} (576 R^2 + 5 s^2) + 4 r R s^8 (256 R^4 + 72 R^2 s^2 + 5 s^4) + r^{10} (32256 R^4 + 1004 R^2 s^2 + 9 s^4) + 4 r^9 (32256 R^5 + 1096 R^3 s^2 + 27 R s^4) - 16 r^3 R s^4 (2048 R^6 + 64 R^4 s^2 - 32 R^2 s^4 - 3 s^6) + 32 r^7 R (18432 R^6 - 160 R^4 s^2 - 56 R^2 s^4 + s^6) - r^2 s^6 (-2048 R^6 + 512 R^4 s^2 + 116 R^2 s^4 + 5 s^6) + r^8 (344064 R^6 + 8000 R^4 s^2 + 256 R^2 s^4 + 5 s^6) + r^6 (589824 R^8 - 44032 R^6 s^2 - 12032 R^4 s^4 - 280 R^2 s^6 - 5 s^8) - r^4 s^2 (16384 R^8 + 40960 R^6 s^2 + 5632 R^4 s^4 + 208 R^2 s^6 + 9 s^8) + 4 r^5 (65536 R^9 - 14336 R^7 s^2 - 7424 R^5 s^4 - 656 R^3 s^6 + 7 R s^8) \right) \right) / \left(r^6 + 16 r^5 R - 128 r R^3 s^2 + 16 R^2 s^4 + s^6 + 16 r^3 R (16 R^2 + s^2) + 3 r^4 (32 R^2 + s^2) + r^2 (256 R^4 - 16 R^2 s^2 + 3 s^4) \right)^2$$

$$|X_{85}X_{200}|^2:$$

$$\frac{1}{(r-2R)^2 (r^2+8rR+16R^2+s^2)^2} \left(r^8 + 24 r^7 R + 1024 R^6 s^2 + 40 r^5 R (24 R^2 + s^2) + r^6 (224 R^2 + 3 s^2) - 16 r^3 R (256 R^4 + 20 R^2 s^2 + s^4) + r^4 (1280 R^4 + 96 R^2 s^2 + 3 s^4) - 64 r (256 R^7 - 24 R^5 s^2 - R^3 s^4) + r^2 (-16384 R^6 - 704 R^4 s^2 + 48 R^2 s^4 + s^6) \right)$$

$$|X_{85}X_{210}|^2:$$

$$- \frac{1}{9 R (r^2+8rR+16R^2+s^2)^2} \left(3 r^7 + 76 r^6 R + r^5 (800 R^2 + 7 s^2) + r^4 (4480 R^3 + 71 R s^2) - R (-32 R^2 s + s^3)^2 + r^3 (14080 R^4 + 56 R^2 s^2 + 5 s^4) + 2 r^2 (11776 R^5 - 616 R^3 s^2 - 3 R s^4) + r (16384 R^6 - 3328 R^4 s^2 + 56 R^2 s^4 + s^6) \right)$$

$$\begin{aligned}
|X_{85}X_{213}|^2: & - \left((r^{14} + 36 r^{13} R - s^{14} + r^{12} (576 R^2 + 5 s^2) + 24 r^{11} (224 R^3 + 5 R s^2) + \right. \\
& r^{10} (32 256 R^4 + 1228 R^2 s^2 + 9 s^4) + 4 r^9 (32 256 R^5 + 1768 R^3 s^2 + 45 R s^4) + \\
& 8 r^3 R s^4 (1024 R^6 + 128 R^4 s^2 + 12 R^2 s^4 - s^6) - r^2 s^6 (1024 R^6 - 896 R^4 s^2 + 212 R^2 s^4 + 5 s^6) + \\
& r^8 (344 064 R^6 + 25 920 R^4 s^2 + 1360 R^2 s^4 + 5 s^6) + \\
& 16 r^7 (36 864 R^7 + 4160 R^5 s^2 + 282 R^3 s^4 + 5 R s^6) + \\
& r^4 s^2 (114 688 R^8 - 12 288 R^6 s^2 + 4160 R^4 s^4 - 304 R^2 s^6 - 9 s^8) + \\
& r^6 (589 824 R^8 + 128 000 R^6 s^2 + 4352 R^4 s^4 + 616 R^2 s^6 - 5 s^8) + \\
& 4 r^5 (65 536 R^9 + 43 008 R^7 s^2 - 2048 R^5 s^4 + 616 R^3 s^6 - 13 R s^8) + r (-64 R^3 s^{10} + 28 R s^{12}) \Big) / \\
& (r^6 + 16 r^5 R - s^4 (16 R^2 + s^2) + r^4 (96 R^2 + s^2) + 4 r^3 (64 R^3 + 3 R s^2) + \\
& r^2 (256 R^4 + 48 R^2 s^2 - s^4) + r (64 R^3 s^2 - 4 R s^4))^2 \\
|X_{85}X_{238}|^2: & - \left((3 r^{10} + 88 r^9 R - s^{10} + \right. \\
& 80 r^7 R (96 R^2 + s^2) + r^8 (1104 R^2 + 11 s^2) + 2 r^6 (16 000 R^4 - 248 R^2 s^2 + 7 s^4) + \\
& 64 r^5 (1248 R^5 - 104 R^3 s^2 + 5 R s^4) + 2 r^4 (55 296 R^6 - 11 648 R^4 s^2 + 1048 R^2 s^4 + 3 s^6) + \\
& 16 r^3 (4096 R^7 - 1792 R^5 s^2 + 312 R^3 s^4 - 9 R s^6) - \\
& r^2 (4096 R^6 s^2 - 3328 R^4 s^4 + 656 R^2 s^6 + s^8) - 8 r (16 R^3 s^6 - 5 R s^8) \Big) / \\
& (3 r^4 + 36 r^3 R - s^2 (16 R^2 + s^2) + 4 r R (48 R^2 + s^2) + 2 r^2 (72 R^2 + s^2))^2 \\
|X_{85}X_{239}|^2: & - \left((4 (r^{10} + 28 r^9 R - s^6 (8 R^2 + s^2))^2 + 40 r^7 R (56 R^2 + s^2) + 3 r^8 (112 R^2 + s^2) + 2 r^6 \right. \\
& (4480 R^4 + 94 R^2 s^2 + s^4) + 16 r^5 (1344 R^5 + 28 R^3 s^2 + 3 R s^4) + \\
& 2 r^4 (14 336 R^6 + 704 R^4 s^2 + 124 R^2 s^4 - s^6) + 8 r^3 (2048 R^7 + 640 R^5 s^2 + 28 R^3 s^4 - 9 R s^6) + \\
& r^2 (7168 R^6 s^2 - 384 R^4 s^4 - 196 R^2 s^6 - 3 s^8) + 4 r (128 R^5 s^4 + 56 R^3 s^6 + 5 R s^8) \Big) / \\
& (3 r^4 + 36 r^3 R - s^2 (16 R^2 + s^2) + 4 r R (48 R^2 + s^2) + 2 r^2 (72 R^2 + s^2))^2 \\
|X_{85}X_{244}|^2: & - \left((-3 r^{10} - 40 r^9 R + s^{10} - r^8 (96 R^2 + 11 s^2) + 40 r^7 (24 R^3 - R s^2) + 2 r^6 (3200 R^4 - 104 R^2 s^2 - 7 s^4) + \right. \\
& 8 r^5 (1536 R^5 - 224 R^3 s^2 - R s^4) + r^4 (-448 R^4 s^2 + 640 R^2 s^4 - 6 s^6) - \\
& 8 r^3 (2048 R^7 - 1600 R^5 s^2 + 480 R^3 s^4 + 7 R s^6) + \\
& r^2 (1024 R^6 s^2 - 1792 R^4 s^4 + 752 R^2 s^6 + s^8) + 16 r (4 R^3 s^6 - 3 R s^8) \Big) / \\
& (r^4 - 6 r^3 R + 16 R^2 s^2 + s^4 + r^2 (-96 R^2 + 2 s^2) - 2 r (112 R^3 + 3 R s^2))^2 \\
|X_{85}X_{304}|^2: & - \left((64 R^2 s^4 (r^8 + 20 r^7 R - 4 R^2 s^6 + r^6 (160 R^2 - s^2) + 16 r^5 (40 R^3 - 3 R s^2) + \right. \\
& r^4 (1280 R^4 - 372 R^2 s^2 - 5 s^4) + 4 r^3 (256 R^5 - 232 R^3 s^2 + 13 R s^4) - \\
& 3 r^2 (192 R^4 s^2 - 56 R^2 s^4 + s^6) + r (96 R^3 s^4 - 8 R s^6) \Big) / \\
& (r^6 + 16 r^5 R + 128 r R^3 s^2 + 16 r^3 R (16 R^2 + s^2) - s^4 (16 R^2 + s^2) + \\
& r^4 (96 R^2 + s^2) + r^2 (256 R^4 + 80 R^2 s^2 - s^4))^2 \\
|X_{85}X_{306}|^2: & - \left((4 (r^{10} + 24 r^9 R - 64 R^4 s^6 + r^8 (244 R^2 - s^2) + 8 r^7 (170 R^3 - 7 R s^2) + 5 r^6 (896 R^4 - 128 R^2 s^2 - \right. \\
& s^4) + 8 r^5 (1088 R^5 - 390 R^3 s^2 + 3 R s^4) + r^4 (9216 R^6 - 7568 R^4 s^2 + 380 R^2 s^4 - 3 s^6) + \\
& 8 r^3 (512 R^7 - 1136 R^5 s^2 + 180 R^3 s^4 - 3 R s^6) - 16 r^2 (272 R^6 s^2 - 140 R^4 s^4 + 5 R^2 s^6) + \\
& 128 r (10 R^5 s^4 - R^3 s^6) \Big) / \\
& (3 r^4 + 30 r^3 R - s^2 (16 R^2 + s^2) + 2 r^2 (48 R^2 + s^2) + r (96 R^3 - 2 R s^2))^2
\end{aligned}$$

$$\begin{aligned}
& |X_{85}X_{312}|^2: \\
& - \left((64 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 + r^6 (160 R^2 - s^2) + 16 r^5 (40 R^3 - 3 R s^2) + r^4 (1280 R^4 - 372 R^2 s^2 - \right. \\
& \quad \left. 5 s^4) + 4 r^3 (256 R^5 - 232 R^3 s^2 + 13 R s^4) - 3 r^2 (192 R^4 s^2 - 56 R^2 s^4 + s^6) + \right. \\
& \quad \left. r (96 R^3 s^4 - 8 R s^6) \right) \Big/ \left(r^4 - 128 r R^3 + 16 R^2 s^2 + s^4 + r^2 (-48 R^2 + 2 s^2) \right)^2 \Big) \\
& |X_{85}X_{319}|^2: \quad - \frac{256 R (r+3 R)^2 s^4 (r^3+8 r^2 R+16 r R^2-r s^2-R s^2)}{(r^4+12 r^3 R+r^2 (48 R^2-2 s^2)+4 r (16 R^3-5 R s^2)-3 (16 R^2 s^2+s^4))^2} \\
& |X_{85}X_{320}|^2: \quad - \frac{256 R (r+R)^2 s^4 (r^3+8 r^2 R+16 r R^2-r s^2-R s^2)}{(3 r^4+36 r^3 R-s^2 (16 R^2+s^2)+4 r R (48 R^2+s^2)+2 r^2 (72 R^2+s^2))^2} \\
& |X_{85}X_{321}|^2: \quad - \left((16 R^2 (r^8 + 20 r^7 R - 16 R^2 s^6 + r^6 (160 R^2 - 3 s^2) + 80 r^5 (8 R^3 - R s^2) + \right. \\
& \quad r^4 (1280 R^4 - 564 R^2 s^2 - 9 s^4) + 4 r^3 (256 R^5 - 360 R^3 s^2 + 19 R s^4) + \\
& \quad r^2 (-1088 R^4 s^2 + 384 R^2 s^4 - 5 s^6) + 8 r (40 R^3 s^4 - 3 R s^6) \Big) \Big/ \\
& \quad \left(r^4 + 6 r^3 R - 32 r R^3 + 2 r^2 s^2 + 6 r R s^2 + 16 R^2 s^2 + s^4 \right)^2 \Big) \\
& |X_{85}X_{345}|^2: \quad - \left((16 (r^{10} + 24 r^9 R - 16 R^4 s^6 + r^8 (244 R^2 + s^2) + 16 r^7 (85 R^3 - R s^2) + \right. \\
& \quad r^6 (4480 R^4 - 312 R^2 s^2 - s^4) + 8 r^5 (1088 R^5 - 214 R^3 s^2 + 3 R s^4) + \\
& \quad r^4 (9216 R^6 - 4240 R^4 s^2 + 164 R^2 s^4 - s^6) + 8 r^3 (512 R^7 - 624 R^5 s^2 + 64 R^3 s^4 - R s^6) - \\
& \quad 4 r^2 (576 R^6 s^2 - 184 R^4 s^4 + 5 R^2 s^6) + 32 r (12 R^5 s^4 - R^3 s^6) \Big) \Big/ \\
& \quad \left(5 r^4 + 48 r^3 R + 128 r R^3 - s^2 (16 R^2 + s^2) + 4 r^2 (36 R^2 + s^2) \right)^2 \Big) \\
& |X_{85}X_{346}|^2: \quad - \left((4 (r^{10} + 28 r^9 R - 64 R^4 s^6 + r^8 (336 R^2 + s^2) + 16 r^7 (140 R^3 - R s^2) + \right. \\
& \quad r^6 (8960 R^4 - 452 R^2 s^2 - s^4) - 64 r^2 R^2 s^2 (144 R^4 - 44 R^2 s^2 + s^4) + \\
& \quad 4 r^5 (5376 R^5 - 848 R^3 s^2 + 3 R s^4) + r^4 (28672 R^6 - 11392 R^4 s^2 + 272 R^2 s^4 - s^6) + \\
& \quad 16 r^3 (1024 R^7 - 1088 R^5 s^2 + 90 R^3 s^4 - R s^6) + 128 r (12 R^5 s^4 - R^3 s^6) \Big) \Big/ \\
& \quad \left(2 r^4 + 24 r^3 R + 128 r R^3 - s^2 (16 R^2 + s^2) + r^2 (96 R^2 + s^2) \right)^2 \Big) \\
& |X_{85}X_{350}|^2: \\
& - \left((256 R^2 s^4 (r^7 R - R^2 s^6 + 2 r^6 (8 R^2 - s^2) + r^5 (96 R^3 - 33 R s^2) + r^4 (256 R^4 - 177 R^2 s^2 - 4 s^4) + \right. \\
& \quad r^3 (256 R^5 - 344 R^3 s^2 + 35 R s^4) - 2 r^2 (72 R^4 s^2 - 33 R^2 s^4 + s^6) + 3 r (8 R^3 s^4 - R s^6) \Big) \Big/ \\
& \quad \left(r^6 + 16 r^5 R + 16 R^2 s^4 + s^6 + 3 r^4 (32 R^2 + s^2) + 8 r^3 R (32 R^2 + s^2) - \right. \\
& \quad \left. 8 r R s^2 (32 R^2 + s^2) + r^2 (256 R^4 - 80 R^2 s^2 + 3 s^4) \right)^2 \Big) \\
& |X_{86}X_{88}|^2: \quad (-9 r^{10} - 72 r^9 R - 16 r R s^8 + s^{10} - 9 r^8 (4 R^2 + 11 s^2) + 72 r^7 (10 R^3 - R s^2) + \\
& \quad 2 r^6 (288 R^4 - 216 R^2 s^2 - 97 s^4) - 8 r^5 (288 R^5 - 234 R^3 s^2 + 17 R s^4) + \\
& \quad 2 r^4 (72 R^4 s^2 + 422 R^2 s^4 - 63 s^6) + r^3 (-384 R^3 s^4 + 360 R s^6) + 3 r^2 (8 R^2 s^6 - 7 s^8) \Big) \Big/ \\
& \quad \left(3 r^4 - 3 r^3 R - 71 r R s^2 + 5 s^4 + r^2 (-60 R^2 + 16 s^2) \right)^2 \\
& |X_{86}X_{89}|^2: \\
& - \left((4 (9 r^{10} + 126 r^9 R - 2 r R s^8 - s^{10} + 9 r^8 (73 R^2 + 11 s^2) + 36 r^7 (43 R^3 + 17 R s^2) + \right. \\
& \quad r^6 (1584 R^4 + 2133 R^2 s^2 + 146 s^4) + 4 r^5 (144 R^5 + 828 R^3 s^2 + 151 R s^4) + \\
& \quad r^4 (1692 R^4 s^2 + 1559 R^2 s^4 + 30 s^6) + 12 r^3 (115 R^3 s^4 - R s^6) + 3 r^2 (65 R^2 s^6 - 9 s^8) \Big) \Big/ \\
& \quad \left(-6 r^4 - 21 r^3 R + 23 r R s^2 + 10 s^4 + 4 r^2 (3 R^2 - 7 s^2) \right)^2 \Big) \\
& |X_{86}X_{99}|^2: \quad \frac{16 s^4 (5 r^2 - 16 r R + s^2) (r^2 + 2 r R + s^2)^2}{(r^2 + 4 r R + 5 s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))} \\
& |X_{86}X_{141}|^2: \quad - \frac{(r^2 + 4 r R - 3 s^2)^2 (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + 9 s^2) + 8 r^3 (8 R^3 + 3 R s^2) + r^2 (60 R^2 s^2 - 9 s^4))}{4 (r^4 + 8 r^3 R + 16 r R s^2 - 5 s^4 + 4 r^2 (4 R^2 + s^2))^2}
\end{aligned}$$

$$|X_{86}X_{142}|^2:$$

$$-\frac{1}{4(r+4R)^2(r^2+4rR+5s^2)^2}\left(r^8+20r^7R-4R^2s^6+8rRs^4(4R^2+s^2)+64r^5R(10R^2+s^2)+\right. \\ \left.r^6(160R^2+7s^2)+r^4(1280R^4+204R^2s^2-37s^4)+\right. \\ \left.4r^3(256R^5+88R^3s^2-51Rs^4)+r^2(448R^4s^2-216R^2s^4+21s^6)\right)$$

$$|X_{86}X_{145}|^2:$$

$$\frac{4(3r^6+20r^5R-132rRs^4+9s^6+r^4(16R^2+23s^2)+r^3(-64R^3+48Rs^2)+r^2(-188R^2s^2+45s^4))}{(r^2+4rR+5s^2)^2}$$

$$|X_{86}X_{190}|^2:$$

$$-\left((16(r^{10}+20r^9R+28rRs^8-s^{10}+128r^7R(5R^2+s^2)+r^8(160R^2+11s^2)+2r^6\right. \\ \left.(640R^4+294R^2s^2+13s^4)+32r^5(32R^5+43R^3s^2+3Rs^4)+\right. \\ \left.2r^4(736R^4s^2+12R^2s^4+11s^6)+112r^3(2R^3s^4-Rs^6)+r^2(-212R^2s^6+5s^8))\right)/ \\ \left.(3r^4+24r^3R+56rRs^2-5s^4+2r^2(24R^2+7s^2))^2\right)$$

$$|X_{86}X_{192}|^2:$$

$$-\left((4(r^{10}+20r^9R+180rRs^8-9s^{10}+128r^7R(5R^2+s^2)+r^8(160R^2+11s^2)+2\right. \\ \left.r^6(640R^4+294R^2s^2+17s^4)+8r^5(128R^5+172R^3s^2+7Rs^4)+\right. \\ \left.2r^4(736R^4s^2-196R^2s^4+15s^6)-96r^3(3R^3s^4+4Rs^6)-3r^2(188R^2s^6+s^8))\right)/ \\ \left.(r^4+8r^3R+24rRs^2+5s^4+2r^2(8R^2+3s^2))^2\right)$$

$$|X_{86}X_{194}|^2:$$

$$-\left((4(r^{14}+28r^{13}R+156rRs^{12}-9s^{14}+8r^3Rs^8(-368R^2+s^2)+r^{12}(336R^2+13s^2)-\right. \\ \left.r^2s^{10}(4R^2+21s^2)+8r^{11}(280R^3+33Rs^2)+r^{10}(8960R^4+2268R^2s^2+57s^4)+4r^9\right. \\ \left.(5376R^5+2672R^3s^2+169Rs^4)+r^8(28672R^6+29568R^4s^2+3120R^2s^4+109s^6)+\right. \\ \left.16r^7(1024R^7+2880R^5s^2+508R^3s^4+23Rs^6)+\right. \\ \left.r^6(31744R^6s^2+15360R^4s^4-1272R^2s^6+91s^8)+\right. \\ \left.4r^5(4096R^5s^4-1328R^3s^6-55Rs^8)+r^4(-2176R^4s^6-2464R^2s^8+15s^{10}))\right)/ \\ \left.(r^6+12r^5R-36rRs^4+5s^6+r^4(48R^2+7s^2)+8r^3(8R^3+5Rs^2)+r^2(48R^2s^2+11s^4))^2\right)$$

$$|X_{86}X_{200}|^2:$$

$$\frac{1}{(r-2R)^2(r^2+4rR+5s^2)^2}$$

$$(r^8+16r^7R+64R^2s^6+16rRs^4(-56R^2+s^2)+r^6(80R^2+3s^2)+ \\ 8r^5(8R^3+11Rs^2)+r^4(-512R^4+208R^2s^2+3s^4)- \\ 8r^3(128R^5+56R^3s^2-7Rs^4)+r^2(-1984R^4s^2+144R^2s^4+s^6))$$

$$|X_{86}X_{210}|^2:$$

$$-\frac{1}{9R(r^2+4rR+5s^2)^2}\left(3r^7+52r^6R-49Rs^6+r^5(336R^2+19s^2)+r^4(960R^3+263Rs^2)+\right. \\ \left.r^3(1024R^4+1072R^2s^2+13s^4)+2r^2(864R^3s^2+41Rs^4)+7r(96R^2s^4-5s^6)\right)$$

$$|X_{86}X_{213}|^2:$$

$$-\left((r^{14}+28r^{13}R+4rRs^{12}-s^{14}+r^2s^{10}(92R^2-13s^2)+8r^3Rs^8(144R^2-7s^2)+\right. \\ \left.r^{12}(336R^2+13s^2)+8r^{11}(280R^3+33Rs^2)+r^4s^6(5760R^4+320R^2s^2-33s^4)+\right. \\ \left.r^{10}(8960R^4+2268R^2s^2+33s^4)+4r^9(5376R^5+2672R^3s^2+139Rs^4)+\right. \\ \left.r^8(28672R^6+29568R^4s^2+3664R^2s^4+21s^6)+\right. \\ \left.16r^7(1024R^7+2880R^5s^2+772R^3s^4+23Rs^6)+r^6\right. \\ \left.(31744R^6s^2+23040R^4s^4+1960R^2s^6-21s^8)+4r^5(5120R^5s^4+1136R^3s^6-3Rs^8))\right)/ \\ \left.(r^6+12r^5R+16rRs^4-5s^6+r^4(48R^2+5s^2)+r^3(64R^3+44Rs^2)+r^2(96R^2s^2-s^4))^2\right)$$

$$|X_{86}X_{238}|^2: - \frac{(r^2+4rR+s^2)^2(3r^6+40r^5R+8rRs^4-s^6+r^4(176R^2+53s^2)+16r^3(16R^3+3Rs^2)+r^2(112R^2s^2-15s^4))}{(3r^4+24r^3R+56rRs^2-5s^4+2r^2(24R^2+7s^2))^2}$$

$$|X_{86}X_{239}|^2: - \left((4(r^{10}+20r^9R+108rRs^8-9s^{10}+128r^7R(5R^2+s^2)+r^8(160R^2+11s^2)+2r^6(640R^4+294R^2s^2-7s^4)+16r^5(64R^5+86R^3s^2-Rs^4)+2r^4(736R^4s^2+236R^2s^4-33s^6)+48r^3(26R^3s^4-3Rs^6)+r^2(492R^2s^6-51s^8))) / (3r^4+24r^3R+56rRs^2-5s^4+2r^2(24R^2+7s^2))^2 \right)$$

$$|X_{86}X_{244}|^2: \left(-3r^{10}-16r^9R-24rRs^8+s^{10}+r^8(80R^2-27s^2)+8r^7(72R^3-5Rs^2)+r^6(512R^4-576R^2s^2-62s^4)-8r^5(128R^5-96R^3s^2+23Rs^4)+2r^4(544R^4s^2-376R^2s^4-27s^6)-8r^3(72R^3s^4-41Rs^6)+5r^2(32R^2s^6-3s^8) \right) / (r^4-10r^3R-66rRs^2+5s^4+r^2(-56R^2+6s^2))^2$$

$$|X_{86}X_{304}|^2: \frac{16s^4(r^2+2rR-s^2)^2(r^6+8r^5R+24r^3Rs^2+3r^2s^4-16rRs^4+s^6+r^4(16R^2+3s^2))}{(r^6+12r^5R+36rRs^4-5s^6+r^4(48R^2+5s^2)+16r^3(4R^3+3Rs^2)+r^2(112R^2s^2-s^4))^2}$$

$$|X_{86}X_{306}|^2: - \left((4(r^{10}+16r^9R+64rRs^8-4s^{10}+16r^3Rs^4(-16R^2+s^2)+r^8(100R^2+7s^2)+16r^7(19R^3+2Rs^2)+r^6(448R^4+48R^2s^2-17s^4)+16r^5(16R^5+R^3s^2-6Rs^4)+r^4(-16R^4s^2-260R^2s^4+25s^6)+4r^2(4R^2s^6-5s^8))) / (3r^4+18r^3R+26rRs^2-5s^4+2r^2(12R^2+7s^2))^2 \right)$$

$$|X_{86}X_{312}|^2: - \left((16(4r^8R^2+48r^7R^3-80r^3R^3s^4+20rRs^8-s^{10}+r^6(192R^4+36R^2s^2-s^4)+4r^5(64R^5+24R^3s^2+3Rs^4)+r^4(240R^4s^2-76R^2s^4-3s^6)-3r^2(20R^2s^6+s^8))) / (r^4-4r^3R-36rRs^2+5s^4+r^2(-32R^2+6s^2))^2 \right)$$

$$|X_{86}X_{319}|^2: - \frac{16s^4(3r^6+40r^5R+120rRs^4-9s^6+r^4(176R^2+13s^2)+32r^3(8R^3+3Rs^2)+r^2(368R^2s^2-63s^4))}{(r^4+8r^3R+8rRs^2-15s^4+2r^2(8R^2+s^2))^2}$$

$$|X_{86}X_{320}|^2: - \frac{16s^4(3r^6+40r^5R+8rRs^4-s^6+r^4(176R^2+53s^2)+16r^3(16R^3+3Rs^2)+r^2(112R^2s^2-15s^4))}{(3r^4+24r^3R+56rRs^2-5s^4+2r^2(24R^2+7s^2))^2}$$

$$|X_{86}X_{321}|^2: - \left((16(r^8R^2+12r^7R^3+18rRs^8-s^{10}+r^6(48R^4+9R^2s^2-s^4)+2r^5R(32R^4+12R^2s^2+s^4)+r^4(60R^4s^2-37R^2s^4-3s^6)-4r^3(13R^3s^4+3Rs^6)-r^2(29R^2s^6+3s^8))) / (r^4+2r^3R-6rRs^2+5s^4+r^2(-8R^2+6s^2))^2 \right)$$

$$|X_{86}X_{345}|^2: - \left((16(r^{10}+16r^9R+20rRs^8-s^{10}+r^8(100R^2+9s^2)+4r^7(76R^3+15Rs^2)+64r^6(7R^4+3R^2s^2)+8r^5(32R^5+42R^3s^2-3Rs^4)+4r^4(60R^4s^2-23R^2s^4+2s^6)-16r^3(5R^3s^4+2Rs^6)-r^2(60R^2s^6+s^8))) / (5r^4+28r^3R+36rRs^2-5s^4+8r^2(4R^2+3s^2))^2 \right)$$

$$|X_{86}X_{346}|^2: - \left((4(r^{10}+20r^9R+80rRs^8-4s^{10}-64r^3Rs^4(5R^2+s^2)+r^8(160R^2+9s^2)+32r^7(20R^3+3Rs^2)+r^6(1280R^4+396R^2s^2+7s^4)+4r^5(256R^5+216R^3s^2-9Rs^4)+r^4(960R^4s^2-336R^2s^4+11s^6)-8r^2(30R^2s^6+s^8))) / (2r^4+16r^3R+36rRs^2-5s^4+r^2(32R^2+9s^2))^2 \right)$$

$$\begin{aligned}
|X_{86}X_{350}|^2: & \quad (16 s^4 (r^{10} + 16 r^9 R - 16 r R s^8 + s^{10} + 32 r^7 R (2 R^2 + s^2) + \\
& \quad 5 r^8 (16 R^2 + s^2) - 64 r^5 (16 R^5 - 9 R^3 s^2) + r^6 (-512 R^4 + 80 R^2 s^2 + 10 s^4) + \\
& \quad 2 r^4 (32 R^4 s^2 + 120 R^2 s^4 + 5 s^6) + 32 r^3 (8 R^3 s^4 - R s^6) + r^2 (-16 R^2 s^6 + 5 s^8)) / \\
& \quad (r^6 + 12 r^5 R - 76 r R s^4 + 5 s^6 + 32 r^3 R (2 R^2 + s^2) + r^4 (48 R^2 + 7 s^2) + r^2 (16 R^2 s^2 + 11 s^4))^2 \\
|X_{88}X_{89}|^2: & \quad - \left((9 r^2 R (81 r^6 R - R s^6 + 36 r^5 (27 R^2 - 2 s^2) + 27 r^4 (144 R^3 - 5 R s^2) + \right. \\
& \quad 8 r^3 (648 R^4 - 189 R^2 s^2 + 8 s^4) + r^2 (252 R^3 s^2 - 73 R s^4) + r (-20 R^2 s^4 + 8 s^6)) / \\
& \quad (18 r^4 - 99 r^3 R + 45 r^2 R^2 + 27 r R s^2 - 2 s^4)^2 \Big) \\
|X_{88}X_{99}|^2: & \quad (-9 r^{10} - 72 r^9 R - 40 r R s^8 + s^{10} - 9 r^8 (4 R^2 + 3 s^2) + \\
& \quad 72 r^7 (10 R^3 + 7 R s^2) + r^6 (576 R^4 + 432 R^2 s^2 - 26 s^4) - 16 r^5 (144 R^5 + 27 R^3 s^2 - 2 R s^4) + \\
& \quad r^4 (-4464 R^4 s^2 + 460 R^2 s^4 - 6 s^6) - 24 r^3 (68 R^3 s^4 + 3 R s^6) + 3 r^2 (168 R^2 s^6 + s^8)) / \\
& \quad ((3 r^2 - 15 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))) \\
|X_{88}X_{141}|^2: & \quad (-9 r^{10} - 126 r^9 R - 38 r R s^8 + s^{10} - 3 r^8 (219 R^2 + 13 s^2) + r^7 (-1548 R^3 + 168 R s^2) + \\
& \quad r^6 (-1584 R^4 + 1467 R^2 s^2 + 42 s^4) - 4 r^5 (144 R^5 - 852 R^3 s^2 + 79 R s^4) + \\
& \quad r^4 (2148 R^4 s^2 - 719 R^2 s^4 + 6 s^6) + r^3 (-2260 R^3 s^4 + 56 R s^6) + r^2 (485 R^2 s^6 - s^8)) / \\
& \quad (4 (-3 r^4 + 3 r^3 R - 19 r R s^2 + s^4 + 2 r^2 (30 R^2 + s^2))^2) \\
|X_{88}X_{142}|^2: & \quad \frac{1}{4 (r+4 R)^2 (3 r^2 - 15 r R + s^2)^2} \\
& \quad (-9 r^8 - 126 r^7 R - 88 r R^3 s^4 + 4 R^2 s^6 - 3 r^6 (219 R^2 + 13 s^2) + r^5 (-1548 R^3 + 60 R s^2) - 3 r^4 \\
& \quad (528 R^4 - 165 R^2 s^2 + 5 s^4) + r^3 (-576 R^5 + 816 R^3 s^2 - 22 R s^4) + r^2 (420 R^4 s^2 - 32 R^2 s^4 - s^6)) \\
|X_{88}X_{145}|^2: & \quad \frac{63 r^6 - 1116 r^5 R - 52 r R s^4 + s^6 - 576 r^3 R (9 R^2 + s^2) + 9 r^4 (544 R^2 + 7 s^2) + r^2 (900 R^2 s^2 + 17 s^4)}{(3 r^2 - 15 r R + s^2)^2} \\
|X_{88}X_{190}|^2: & \quad - \frac{(r^2 - 14 r R + s^2)^2 (9 r^6 + 108 r^5 R + 28 r R s^4 - s^6 + r^4 (432 R^2 + 33 s^2) + 24 r^3 (24 R^3 - 7 R s^2) + r^2 (-228 R^2 s^2 + 7 s^4))}{(-9 r^4 + 9 r^3 R + 180 r^2 R^2 - 27 r R s^2 + s^4)^2} \\
|X_{88}X_{192}|^2: & \quad (-9 r^{10} + 36 r^9 R - 60 r R s^8 + s^{10} + r^8 (720 R^2 - 3 s^2) + r^7 (-576 R^3 + 528 R s^2) - \\
& \quad 6 r^6 (3072 R^4 + 1002 R^2 s^2 - 5 s^4) - 8 r^5 (4608 R^5 - 1416 R^3 s^2 + 41 R s^4) + \\
& \quad r^4 (36096 R^4 s^2 + 2488 R^2 s^4 + 34 s^6) - 16 r^3 (712 R^3 s^4 + 23 R s^6) + r^2 (1284 R^2 s^6 + 11 s^8)) / \\
& \quad (3 r^4 - 3 r^3 R - 11 r R s^2 + s^4 + r^2 (-60 R^2 + 4 s^2))^2 \\
|X_{88}X_{194}|^2: & \quad (-9 r^{14} - 36 r^{13} R - 52 r R s^{12} + s^{14} + 3 r^{12} (288 R^2 - 7 s^2) + r^2 s^{10} (916 R^2 + 13 s^2) - \\
& \quad 8 r^3 R s^8 (668 R^2 + 61 s^2) + 72 r^{11} (80 R^3 + 3 R s^2) - 3 r^{10} (3840 R^4 + 228 R^2 s^2 - 5 s^4) - \\
& \quad 4 r^9 (48384 R^5 + 1896 R^3 s^2 - 5 R s^4) + r^8 (-589824 R^6 + 53568 R^4 s^2 + 2000 R^2 s^4 + 91 s^6) - \\
& \quad 16 r^7 (36864 R^7 - 13248 R^5 s^2 + 2106 R^3 s^4 + 71 R s^6) + \\
& \quad r^6 (-12288 R^6 s^2 + 45440 R^4 s^4 + 8376 R^2 s^6 + 109 s^8) + \\
& \quad 4 r^5 (28160 R^5 s^4 - 5912 R^3 s^6 - 335 R s^8) + r^4 (-8384 R^4 s^6 + 5744 R^2 s^8 + 57 s^{10})) / \\
& \quad (3 r^6 + 9 r^5 R - 23 r R s^4 + s^6 + r^4 (-72 R^2 + 7 s^2) - 2 r^3 (120 R^3 + 23 R s^2) + r^2 (136 R^2 s^2 + 5 s^4))^2 \\
|X_{88}X_{200}|^2: & \quad \frac{R (-54 r^7 - 63 r^6 R - 160 r R^2 s^4 + 4 R s^6 + 8 R^2 R s^2 (264 R^2 + s^2) + 6 R^5 (252 R^2 + 5 s^2) + 3 R^4 (432 R^3 - 101 R s^2) - 12 R^3 (768 R^4 + 16 R^2 s^2 - s^4))}{(r-2 R)^2 (3 r^2 - 15 r R + s^2)^2} \\
|X_{88}X_{210}|^2: & \quad \frac{72 r^6 R + 4 R s^6 + 2 r s^4 (-74 R^2 + s^2) + 9 r^5 (15 R^2 + 2 s^2) - 6 r^4 (396 R^3 + 37 R s^2) + r^3 (-7056 R^4 + 789 R^2 s^2 + 12 s^4) + 35 r^2 (51 R^3 s^2 - 2 R s^4)}{9 R (3 r^2 - 15 r R + s^2)^2}
\end{aligned}$$

$$\begin{aligned}
& |X_{88}X_{213}|^2: \\
& - \left((r^2 R (81 r^{10} R - R s^{10} - 4 r s^8 (R^2 - 2 s^2) + 36 r^9 (45 R^2 - 2 s^2) + 9 r^8 (1440 R^3 - 37 R s^2) + \right. \\
& \quad 16 r^7 (3240 R^4 + 63 R^2 s^2 - 5 s^4) + 2 r^6 (51840 R^5 + 3366 R^3 s^2 - 391 R s^4) + \\
& \quad 32 r^5 (2592 R^6 + 387 R^4 s^2 - 15 R^2 s^4 + 2 s^6) + 2 r^4 (8928 R^5 s^2 - 2788 R^3 s^4 - 249 R s^6) + \\
& \quad 16 r^3 (154 R^4 s^4 + 5 s^8) + r^2 (76 R^3 s^6 - 131 R s^8))) / \\
& \quad \left(3 r^6 + 9 r^5 R + 19 r R s^4 - s^6 + r^4 (-72 R^2 + s^2) + 20 r^3 R (-12 R^2 + s^2) - r^2 (44 R^2 s^2 + 3 s^4) \right)^2 \\
& |X_{88}X_{238}|^2: \quad \left(r^2 R (-198 r^7 - 1791 r^6 R + R s^6 - 6 r^5 (900 R^2 - 53 s^2) - 45 r^4 R (176 R^2 + s^2) + \right. \\
& \quad r^3 (-9216 R^4 + 3816 R^2 s^2 + 14 s^4) + r^2 (1344 R^3 s^2 - 365 R s^4) + r (-64 R^2 s^4 + 10 s^6))) / \\
& \quad \left(-9 r^4 + 9 r^3 R + 180 r^2 R^2 - 27 r R s^2 + s^4 \right)^2 \\
& |X_{88}X_{239}|^2: \quad \left(-9 r^{10} - 180 r^9 R - 44 r R s^8 + s^{10} - 3 r^8 (480 R^2 - 7 s^2) - 48 r^7 (120 R^3 - 7 R s^2) + \right. \\
& \quad r^6 (-11520 R^4 + 1044 R^2 s^2 + 86 s^4) - 48 r^5 (192 R^5 + 50 R^3 s^2 + 25 R s^4) + \\
& \quad r^4 (-10176 R^4 s^2 + 5064 R^2 s^4 + 74 s^6) - 32 r^3 (53 R^3 s^4 + 19 R s^6) + r^2 (596 R^2 s^6 + 19 s^8))) / \\
& \quad \left(-9 r^4 + 9 r^3 R + 180 r^2 R^2 - 27 r R s^2 + s^4 \right)^2 \\
& |X_{88}X_{244}|^2: \quad - \frac{r^2 R (-3 r^2 - 12 r R + s^2)^2 (10 r^3 - 37 r^2 R - R s^2 + 2 r (8 R^2 + s^2))}{(3 r^4 - 57 r^3 R - 29 r R s^2 + s^4 + r^2 (210 R^2 + 4 s^2))^2} \\
& |X_{88}X_{304}|^2: \\
& \quad \left(-9 r^{14} - 144 r^{13} R - 48 r R s^{12} + s^{14} - 8 r^3 R s^8 (812 R^2 - 5 s^2) + 72 r^{11} R (-10 R^2 + s^2) - \right. \\
& \quad 9 r^{12} (84 R^2 + s^2) + r^2 s^{10} (840 R^2 + s^2) + r^4 s^6 (22800 R^4 - 1876 R^2 s^2 - 11 s^4) + \\
& \quad r^{10} (5760 R^4 - 504 R^2 s^2 + 19 s^4) + 16 r^9 (864 R^5 - 567 R^3 s^2 - 35 R s^4) + \\
& \quad r^8 (-9216 R^6 - 14832 R^4 s^2 + 3528 R^2 s^4 + 19 s^6) - \\
& \quad 16 r^7 (2304 R^7 - 2520 R^5 s^2 - 439 R^3 s^4 - 9 R s^6) + \\
& \quad r^6 (57600 R^6 s^2 - 34592 R^4 s^4 - 5328 R^2 s^6 - 11 s^8) + \\
& \quad r^5 (-48768 R^5 s^4 + 17968 R^3 s^6 + 496 R s^8))) / \\
& \quad \left(3 r^6 + 9 r^5 R + 23 r R s^4 - s^6 + r^4 (-72 R^2 + s^2) + r^3 (-240 R^3 + 32 R s^2) - r^2 (104 R^2 s^2 + 3 s^4) \right)^2 \\
& |X_{88}X_{306}|^2: \quad \left(-9 r^{10} - 144 r^9 R - 2736 r^7 R^3 - 44 r R s^8 + s^{10} - 3 r^8 (300 R^2 + 17 s^2) + \right. \\
& \quad r^6 (-4032 R^4 + 1632 R^2 s^2 + 38 s^4) - 4 r^5 (576 R^5 - 1404 R^3 s^2 + 95 R s^4) + \\
& \quad 2 r^4 (2760 R^4 s^2 - 88 R^2 s^4 + 9 s^6) - 8 r^3 (482 R^3 s^4 + 7 R s^6) + r^2 (668 R^2 s^6 + 3 s^8))) / \\
& \quad \left(-9 r^4 + 27 r^3 R + 90 r^2 R^2 - 21 r R s^2 + s^4 \right)^2 \\
& |X_{88}X_{312}|^2: \quad \left(-9 r^{10} - 48 r R s^8 + s^{10} + 27 r^8 (20 R^2 - s^2) + 24 r^7 (30 R^3 + 19 R s^2) - \right. \\
& \quad 2 r^6 (4320 R^4 + 1704 R^2 s^2 + 13 s^4) + r^5 (-20736 R^5 + 6576 R^3 s^2 + 320 R s^4) + \\
& \quad 6 r^4 (3288 R^4 s^2 - 38 R^2 s^4 - s^6) - 8 r^3 (800 R^3 s^4 + 7 R s^6) + 3 r^2 (280 R^2 s^6 + s^8))) / \\
& \quad \left(3 r^4 - 39 r^3 R - 23 r R s^2 + s^4 + 4 r^2 (30 R^2 + s^2) \right)^2 \\
& |X_{88}X_{319}|^2: \quad \left(-9 r^{10} - 72 r^9 R - 360 r R s^8 + 9 s^{10} + \right. \\
& \quad 360 r^7 R (2 R^2 + s^2) - 9 r^8 (4 R^2 + 11 s^2) + r^6 (576 R^4 + 2160 R^2 s^2 + 310 s^4) - \\
& \quad 16 r^5 (144 R^5 - 117 R^3 s^2 + 196 R s^4) + r^4 (-13680 R^4 s^2 + 9244 R^2 s^4 + 186 s^6) - \\
& \quad 72 r^3 (260 R^3 s^4 + 19 R s^6) + r^2 (4680 R^2 s^6 + 51 s^8))) / \\
& \quad \left(-3 r^4 + 3 r^3 R - 49 r R s^2 + 3 s^4 + r^2 (60 R^2 + 8 s^2) \right)^2 \\
& |X_{88}X_{320}|^2: \\
& \quad \left(-81 r^{10} - 648 r^9 R - 40 r R s^8 + s^{10} - 27 r^8 (12 R^2 + 17 s^2) + 216 r^7 (30 R^3 + 11 R s^2) + \right. \\
& \quad 18 r^6 (288 R^4 - 72 R^2 s^2 - 5 s^4) - 144 r^5 (144 R^5 - 21 R^3 s^2 + 4 R s^4) - \\
& \quad 6 r^4 (2088 R^4 s^2 - 330 R^2 s^4 - 7 s^6) - 24 r^3 (12 R^3 s^4 + 13 R s^6) + r^2 (456 R^2 s^6 + 11 s^8))) / \\
& \quad \left(-9 r^4 + 9 r^3 R + 180 r^2 R^2 - 27 r R s^2 + s^4 \right)^2
\end{aligned}$$

$$|X_{88}X_{321}|^2: \quad (-9r^{10} - 36r^9R - 44rRs^8 + s^{10} + 9r^8(32R^2 - 3s^2) + 48r^7(24R^3 + 7Rs^2) - 2r^6(1152R^4 + 1110R^2s^2 + 13s^4) - 32r^5(288R^5 - 75R^3s^2 - 7Rs^4) + 6r^4(1888R^4s^2 + 28R^2s^4 - s^6) - 32r^3(143R^3s^4 + 2Rs^6) + r^2(692R^2s^6 + 3s^8)) / (3r^4 - 21r^3R - 17rRs^2 + s^4 + r^2(30R^2 + 4s^2))^2$$

$$|X_{88}X_{345}|^2: \quad (-9r^{10} - 216r^9R - 48rRs^8 + s^{10} - 3r^8(684R^2 + 13s^2) - 48r^7(201R^3 + 4Rs^2) - 6r^6(3744R^4 - 392R^2s^2 - 7s^4) - 24r^5(864R^5 - 662R^3s^2 + 9Rs^4) + 2r^4(9864R^4s^2 - 1082R^2s^4 + 3s^6) + r^3(-6400R^3s^4 + 96Rs^6) + r^2(840R^2s^6 - s^8)) / (-15r^4 + 51r^3R - 23rRs^2 + s^4 - 2r^2(-60R^2 + s^2))^2$$

$$|X_{88}X_{346}|^2: \quad (-324r^8R^2 - 48rRs^8 + s^{10} + 20r^3Rs^4(-320R^2 + s^2) - 36r^7R(108R^2 + s^2) - 3r^6(5184R^4 + 252R^2s^2 - 5s^4) - 16r^5(1296R^5 - 702R^3s^2 - 5Rs^4) + r^4(19728R^4s^2 - 1196R^2s^4 - s^6) + r^2(840R^2s^6 + s^8)) / (-6r^4 + 6r^3R - 23rRs^2 + s^4 + r^2(120R^2 + s^2))^2$$

$$|X_{88}X_{350}|^2: \quad (-9r^{14} - 144r^{13}R - 48rRs^{12} + s^{14} - 72r^{11}R(10R^2 + s^2) - 9r^{12}(84R^2 + 5s^2) + r^2s^{10}(792R^2 + 5s^2) - 8r^3Rs^8(596R^2 + 13s^2) + r^{10}(5760R^4 + 1368R^2s^2 - 89s^4) + r^4s^6(3216R^4 - 260R^2s^2 + s^4) + 16r^9(864R^5 + 189R^3s^2 + 43Rs^4) - r^8(9216R^6 + 3312R^4s^2 + 168R^2s^4 + 85s^6) - 16r^7(2304R^7 + 360R^5s^2 + 929R^3s^4 - 63Rs^6) - 7r^6(2304R^6s^2 - 2272R^4s^4 + 624R^2s^6 + 5s^8) + 16r^5(1464R^5s^4 + 587R^3s^6 + 21Rs^8)) / (3r^6 + 9r^5R - 31rRs^4 + s^6 + r^4(-72R^2 + 7s^2) - 10r^3(24R^3 + 7Rs^2) + r^2(256R^2s^2 + 5s^4))^2$$

$$|X_{89}X_{99}|^2: \quad - \left((4(9r^{10} + 126r^9R + 10rRs^8 - s^{10} - 12r^3Rs^4(R^2 + s^2) + 9r^8(73R^2 + 3s^2) + 36r^7(43R^3 - 5Rs^2) + r^6(1584R^4 - 891R^2s^2 + 26s^4) + 8r^5(72R^5 - 162R^3s^2 - 25Rs^4) + r^4(-612R^4s^2 - 409R^2s^4 + 6s^6) + r^2(99R^2s^6 - 3s^8))) / ((-6r^2 + 3rR + 2s^2)^2 (r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 - 7s^2))) \right)$$

$$|X_{89}X_{141}|^2: \quad (-36r^{10} - 612r^9R - 44rRs^8 + 4s^{10} - 3r^8(1371R^2 + 68s^2) - 12r^7(1137R^3 + 62Rs^2) - 9r^6(2480R^4 - 95R^2s^2 - 56s^4) - 8r^5(1800R^5 - 735R^3s^2 - 178Rs^4) + r^4(5700R^4s^2 + 1177R^2s^4 - 312s^6) + 20r^3(61R^3s^4 - 14Rs^6) + r^2(-415R^2s^6 + 44s^8)) / (4(6r^4 + 21r^3R - 5rRs^2 + 2s^4 - 4r^2(3R^2 + 2s^2))^2)$$

$$|X_{89}X_{142}|^2: \quad - \frac{1}{4(r+4R)^2(-6r^2+3rR+2s^2)^2} (36r^8 + 612r^7R + 16rR^3s^4 - 16R^2s^6 + 3r^6(1371R^2 + 68s^2) + 12r^5(1137R^3 + 80Rs^2) + 3r^4(7440R^4 + 471R^2s^2 - 28s^4) + 4r^3(3600R^5 + 474R^3s^2 - 89Rs^4) + 4r^2(735R^4s^2 - 100R^2s^4 + s^6))$$

$$|X_{89}X_{145}|^2: \quad \frac{4(63r^6 - 468r^5R + 180r^3Rs^2 - 7r^2s^4 - 16rRs^4 + s^6 + 9r^4(4R^2 - s^2))}{(-6r^2+3rR+2s^2)^2}$$

$$|X_{89}X_{190}|^2: \quad - \left((4(9r^{10} + 18r^9R + 26rRs^8 - s^{10} + 5r^2s^6(-25R^2 + s^2) + r^8(-423R^2 + 3s^2) - 12r^7(87R^3 + 59Rs^2) + r^6(5040R^4 + 2637R^2s^2 - 14s^4) + 60r^5(240R^5 + 56R^3s^2 + 5Rs^4) + r^4(3900R^4s^2 - 249R^2s^4 - 2s^6) - 20r^3(43R^3s^4 + 5Rs^6))) / (18r^4 + 63r^3R - 21rRs^2 + 2s^4 - 12r^2(3R^2 + s^2))^2 \right)$$

$$|X_{89}X_{192}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 72 r^9 R + 24 r R s^8 - s^{10} + 3 r^8 (12 R^2 - 7 s^2) - 24 r^7 (30 R^3 + 29 R s^2) - 18 \right. \\ & \quad r^6 (32 R^4 - 8 R^2 s^2 + 3 s^4) + 16 r^5 (144 R^5 + 123 R^3 s^2 + 61 R s^4) + \\ & \quad 2 r^4 (696 R^4 s^2 + 250 R^2 s^4 - 5 s^6) - 56 r^3 (4 R^3 s^4 + 5 R s^6) + r^2 (-120 R^2 s^6 + 13 s^8) \Big) \Big) / \\ & \quad (6 r^4 + 21 r^3 R - 11 r R s^2 - 2 s^4 + 4 r^2 (-3 R^2 + s^2))^2 \end{aligned}$$

$$|X_{89}X_{194}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{14} + 144 r^{13} R + 16 r R s^{12} - s^{14} + r^{12} (756 R^2 - 3 s^2) + r^2 s^{10} (8 R^2 + 11 s^2) - \right. \\ & \quad 8 r^3 R s^8 (4 R^2 + 29 s^2) + 360 r^{11} (2 R^3 - R s^2) - 3 r^{10} (1920 R^4 + 648 R^2 s^2 + 29 s^4) - \\ & \quad 16 r^9 (864 R^5 - 39 R^3 s^2 + 11 R s^4) + r^8 (9216 R^6 + 10224 R^4 s^2 - 2168 R^2 s^4 - 139 s^6) + \\ & \quad 16 r^7 (2304 R^7 - 216 R^5 s^2 + 117 R^3 s^4 + 65 R s^6) + \\ & \quad r^6 (3840 R^6 s^2 + 6496 R^4 s^4 + 432 R^2 s^6 - 61 s^8) - \\ & \quad 16 r^5 (8 R^5 s^4 + 7 R^3 s^6 - 29 R s^8) + r^4 (-1552 R^4 s^6 - 92 R^2 s^8 + 15 s^{10}) \Big) \Big) / \\ & \quad (6 r^6 + 45 r^5 R + 13 r R s^4 - 2 s^6 + 2 r^4 (36 R^2 + 5 s^2) - 2 r^3 (24 R^3 + 35 R s^2) + \\ & \quad r^2 (-8 R^2 s^2 + 2 s^4))^2 \end{aligned}$$

$$|X_{89}X_{200}|^2:$$

$$\begin{aligned} & - \frac{1}{(r-2R)^2 (-6r^2+3rR+2s^2)^2} R (108 r^7 + 603 r^6 R + 160 r R^2 s^4 - 16 R s^6 - 12 r^5 (18 R^2 + 11 s^2) + \\ & \quad r^4 (-3024 R^3 + 111 R s^2) + 24 r^3 (96 R^4 - 41 R^2 s^2 + 2 s^4) + 8 r^2 (174 R^3 s^2 - 7 R s^4) \Big) \end{aligned}$$

$$|X_{89}X_{210}|^2:$$

$$\frac{126 r^6 R + 16 R s^6 + 8 r s^4 (-17 R^2 + s^2) + 9 r^5 (87 R^2 + 8 s^2) + 12 r^4 (18 R^3 - 31 R s^2) - 3 r^3 (1200 R^4 + 29 R^2 s^2 + 16 s^4) + r^2 (-1695 R^3 s^2 + 62 R s^4)}{9 R (-6 r^2 + 3 r R + 2 s^2)^2}$$

$$|X_{89}X_{213}|^2:$$

$$\begin{aligned} & - \left((r^2 R (81 r^{10} R - R s^{10} + 36 r^9 (45 R^2 - 2 s^2) + 9 r^8 (1440 R^3 - 13 R s^2) + \right. \\ & \quad 16 r^7 (3240 R^4 + 279 R^2 s^2 - 5 s^4) + 2 r^6 (51840 R^5 + 13734 R^3 s^2 - 475 R s^4) + \\ & \quad 16 r^5 (5184 R^6 + 4230 R^4 s^2 - 21 R^2 s^4 + 4 s^6) + 2 r^4 (36576 R^5 s^2 + 524 R^3 s^4 - 357 R s^6) + \\ & \quad 16 r^3 (994 R^4 s^4 - 234 R^2 s^6 + 5 s^8) + r^2 (-212 R^3 s^6 + 37 R s^8) + r (-52 R^2 s^8 + 8 s^{10}) \Big) \Big) / \\ & \quad (6 r^6 + 45 r^5 R - 5 r R s^4 + 2 s^6 + r^4 (72 R^2 - 2 s^2) + 8 r^3 R (-6 R^2 + s^2) - 2 r^2 (22 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$$|X_{89}X_{238}|^2:$$

$$\begin{aligned} & - \left((r^2 R (468 r^7 + 5463 r^6 R - 25 R s^6 + 12 r^5 (1962 R^2 - 11 s^2) + 20 r s^4 (-4 R^2 + s^2) + 9 r^4 \right. \\ & \quad (5104 R^3 + 109 R s^2) + 4 r^3 (9216 R^4 - 342 R^2 s^2 - 17 s^4) + r^2 (5376 R^3 s^2 - 859 R s^4) \Big) \Big) / \\ & \quad (18 r^4 + 63 r^3 R - 21 r R s^2 + 2 s^4 - 12 r^2 (3 R^2 + s^2))^2 \end{aligned}$$

$$|X_{89}X_{239}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 180 r^9 R + 8 r R s^8 - s^{10} + 3 r^8 (480 R^2 + s^2) + 24 r^7 (240 R^3 - 7 R s^2) + 2 \right. \\ & \quad r^6 (5760 R^4 - 666 R^2 s^2 - 7 s^4) + 12 r^5 (768 R^5 - 152 R^3 s^2 + 49 R s^4) + \\ & \quad 2 r^4 (1248 R^4 s^2 - 66 R^2 s^4 - s^6) + 208 r^3 (4 R^3 s^4 - R s^6) + r^2 (64 R^2 s^6 + 5 s^8) \Big) \Big) / \\ & \quad (18 r^4 + 63 r^3 R - 21 r R s^2 + 2 s^4 - 12 r^2 (3 R^2 + s^2))^2 \end{aligned}$$

$$|X_{89}X_{244}|^2:$$

$$\begin{aligned} & - \left((r^2 R (468 r^7 + 5463 r^6 R - R s^6 + 12 r^5 (1962 R^2 - 91 s^2) + 20 r s^4 (-4 R^2 + s^2) + 9 \right. \\ & \quad r^4 (5104 R^3 - 571 R s^2) + 4 r^3 (9216 R^4 - 3006 R^2 s^2 + 127 s^4) + \\ & \quad r^2 (-768 R^3 s^2 + 149 R s^4) \Big) \Big) / (6 r^4 - 87 r^3 R + 25 r R s^2 - 2 s^4 + r^2 (42 R^2 + 4 s^2))^2 \end{aligned}$$

$$|X_{89}X_{304}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{14} + 198 r^{13} R + 18 r R s^{12} - s^{14} - r^2 s^{10} (-3 R^2 + s^2) + 9 r^{12} (201 R^2 + s^2) - 4 r^3 R s^8 \right. \\ & \quad (137 R^2 + 10 s^2) + 36 r^{11} (245 R^3 - 2 R s^2) + r^{10} (24480 R^4 - 981 R^2 s^2 - 19 s^4) + \\ & \quad 2 r^9 (19008 R^5 - 540 R^3 s^2 + 307 R s^4) + r^8 (29952 R^6 + 9324 R^4 s^2 + 2310 R^2 s^4 - 19 s^6) + \\ & \quad 16 r^7 (576 R^7 + 1422 R^5 s^2 + 92 R^3 s^4 - 57 R s^6) + \\ & \quad r^6 (13248 R^6 s^2 + 2696 R^4 s^4 - 558 R^2 s^6 + 11 s^8) + \\ & \quad \left. 2 r^5 (2544 R^5 s^4 - 236 R^3 s^6 + 97 R s^8) + r^4 (-564 R^4 s^6 - 23 R^2 s^8 + 11 s^{10}) \right) / \\ & (6 r^6 + 45 r^5 R - 13 r R s^4 + 2 s^6 + r^4 (72 R^2 - 2 s^2) + r^3 (-48 R^3 + 32 R s^2) - \\ & \quad 2 r^2 (28 R^2 s^2 + 3 s^4))^2 \end{aligned}$$

$$|X_{89}X_{306}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 144 r^9 R + 14 r R s^8 - s^{10} + 75 r^8 (12 R^2 + s^2) + 36 r^7 (76 R^3 + 11 R s^2) + \right. \\ & \quad 2 r^6 (2016 R^4 + 348 R^2 s^2 - 67 s^4) + 2 r^5 (1152 R^5 + 72 R^3 s^2 - 113 R s^4) + \\ & \quad r^4 (-528 R^4 s^2 - 457 R^2 s^4 + 54 s^6) - 8 r^3 (43 R^3 s^4 + 2 R s^6) + r^2 (55 R^2 s^6 - 3 s^8)) \right) / \\ & (18 r^4 + 27 r^3 R - 9 r R s^2 + 2 s^4 - 6 r^2 (3 R^2 + 2 s^2))^2 \end{aligned}$$

$$|X_{89}X_{312}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 54 r^9 R + 18 r R s^8 - s^{10} + 3 r^2 s^6 (R^2 - s^2) - 27 r^8 (5 R^2 - s^2) - 4 r^3 R s^4 (149 R^2 + s^2) - \right. \\ & \quad 12 r^7 (87 R^3 + 37 R s^2) + r^6 (432 R^4 + 885 R^2 s^2 + 26 s^4) + 8 r^5 (648 R^5 + 66 R^3 s^2 - R s^4) + \\ & \quad \left. 3 r^4 (84 R^4 s^2 - 43 R^2 s^4 + 2 s^6)) \right) / (6 r^4 - 51 r^3 R + 13 r R s^2 - 2 s^4 + 4 r^2 (6 R^2 + s^2))^2 \end{aligned}$$

$$|X_{89}X_{319}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 126 r^9 R + 90 r R s^8 - 9 s^{10} + 9 r^8 (73 R^2 + 11 s^2) + 36 r^7 (43 R^3 + 11 R s^2) + \right. \\ & \quad r^6 (1584 R^4 + 189 R^2 s^2 - 502 s^4) + 8 r^5 (72 R^5 - 234 R^3 s^2 - 25 R s^4) + r^4 \\ & \quad \left. (-1764 R^4 s^2 - 1633 R^2 s^4 + 390 s^6) + 36 r^3 (23 R^3 s^4 - 7 R s^6) + r^2 (819 R^2 s^6 - 51 s^8)) \right) / \\ & (6 r^4 + 21 r^3 R + r R s^2 + 6 s^4 - 4 r^2 (3 R^2 + 5 s^2))^2 \end{aligned}$$

$$|X_{89}X_{320}|^2:$$

$$- \frac{4 (-3 r^2 - 3 r R + s^2)^2 (9 r^6 + 108 r^5 R + 4 r R s^4 - s^6 + 24 r^3 R (24 R^2 + s^2) + r^4 (432 R^2 + 57 s^2) + r^2 (156 R^2 s^2 - 17 s^4))}{(18 r^4 + 63 r^3 R - 21 r R s^2 + 2 s^4 - 12 r^2 (3 R^2 + s^2))^2}$$

$$|X_{89}X_{321}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 90 r^9 R + 14 r R s^8 - s^{10} + 9 r^8 (25 R^2 + 3 s^2) - 12 r^7 (15 R^3 + 23 R s^2) + r^6 \right. \\ & \quad (-720 R^4 + 93 R^2 s^2 + 26 s^4) + 8 r^5 (72 R^5 + 48 R^3 s^2 + 11 R s^4) + \\ & \quad r^4 (-228 R^4 s^2 + 39 R^2 s^4 + 6 s^6) - 4 r^3 (41 R^3 s^4 + 11 R s^6) + r^2 (43 R^2 s^6 - 3 s^8)) \right) / \\ & (6 r^4 - 15 r^3 R + r R s^2 - 2 s^4 + r^2 (6 R^2 + 4 s^2))^2 \end{aligned}$$

$$|X_{89}X_{345}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{10} + 162 r^9 R + 18 r R s^8 - s^{10} + 3 r^8 (387 R^2 + 29 s^2) + 12 r^7 (345 R^3 + 56 R s^2) + \right. \\ & \quad 3 r^6 (2448 R^4 + 583 R^2 s^2 - 46 s^4) + 12 r^5 (432 R^5 + 136 R^3 s^2 - 19 R s^4) + \\ & \quad r^4 (252 R^4 s^2 - 545 R^2 s^4 + 42 s^6) - 4 r^3 (149 R^3 s^4 + 12 R s^6) + r^2 (3 R^2 s^6 + s^8)) \right) / \\ & (30 r^4 + 33 r^3 R - 13 r R s^2 + 2 s^4 - 8 r^2 (3 R^2 + 2 s^2))^2 \end{aligned}$$

$$|X_{89}X_{346}|^2:$$

$$\begin{aligned} & - \left((4 (81 r^8 R^2 + 18 r R s^8 - s^{10} + 18 r^7 (54 R^3 + 5 R s^2) + 3 r^6 (1296 R^4 + 387 R^2 s^2 - 13 s^4) + \right. \\ & \quad 2 r^5 (2592 R^5 + 540 R^3 s^2 - 61 R s^4) + r^4 (252 R^4 s^2 - 337 R^2 s^4 + 25 s^6) - \\ & \quad \left. 2 r^3 (298 R^3 s^4 + 13 R s^6) + r^2 (3 R^2 s^6 - s^8)) \right) / \\ & (12 r^4 + 42 r^3 R - 13 r R s^2 + 2 s^4 - 2 r^2 (12 R^2 + 5 s^2))^2 \end{aligned}$$

$$|X_{89}X_{350}|^2:$$

$$\begin{aligned} & - \left((4 (9 r^{14} + 198 r^{13} R + 18 r R s^{12} - s^{14} + r^2 s^{10} (27 R^2 - 5 s^2) + 9 r^{12} (201 R^2 + 5 s^2) + \right. \\ & \quad 36 r^{11} (245 R^3 + 8 R s^2) - r^4 s^6 (-876 R^4 + 835 R^2 s^2 + s^4) + \\ & \quad r^{10} (24480 R^4 - 801 R^2 s^2 + 89 s^4) + 2 r^9 (19008 R^5 - 5508 R^3 s^2 - 149 R s^4) + \\ & \quad r^8 (29952 R^6 - 35028 R^4 s^2 - 2286 R^2 s^4 + 85 s^6) + \\ & \quad 8 r^7 (1152 R^7 - 6084 R^5 s^2 + 463 R^3 s^4 - 78 R s^6) + \\ & \quad r^6 (-23616 R^6 s^2 + 13304 R^4 s^4 + 3558 R^2 s^6 + 35 s^8) + \\ & \quad 2 r^5 (7536 R^5 s^4 + 236 R^3 s^6 - 87 R s^8) + r^3 (-1052 R^3 s^8 + 80 R s^{10})) \Big) / \\ & \quad \left((6 r^6 + 45 r^5 R + 29 r R s^4 - 2 s^6 + 2 r^4 (36 R^2 + 5 s^2) - 2 r^3 (24 R^3 + 59 R s^2) + \right. \\ & \quad \left. 2 r^2 (8 R^2 s^2 + s^4))^2 \right) \end{aligned}$$

$$\begin{aligned} |X_{99}X_{141}|^2: & - \left((r^{10} + 20 r^9 R + 20 r R s^8 - s^{10} + r^8 (160 R^2 + 11 s^2) + 16 r^7 (40 R^3 + 7 R s^2) + \right. \\ & \quad 2 r^6 (640 R^4 + 198 R^2 s^2 - 59 s^4) + 8 r^5 (128 R^5 + 76 R^3 s^2 - 73 R s^4) + \\ & \quad 2 r^4 (224 R^4 s^2 - 324 R^2 s^4 + 59 s^6) - 112 r^3 (2 R^3 s^4 - R s^6) - r^2 (52 R^2 s^6 + 11 s^8)) \Big) / \\ & \quad \left((4 (r^2 + 4 r R - s^2))^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$\begin{aligned} |X_{99}X_{142}|^2: & \left(-r^8 - 20 r^7 R + 36 R^2 s^6 + 24 r R s^4 (-20 R^2 + s^2) - 5 r^6 (32 R^2 + 3 s^2) - 16 r^5 (40 R^3 + 11 R s^2) + \right. \\ & \quad r^4 (-1280 R^4 - 780 R^2 s^2 + 53 s^4) - 4 r^3 (256 R^5 + 408 R^3 s^2 - 47 R s^4) + \\ & \quad \left. r^2 (-1472 R^4 s^2 - 72 R^2 s^4 + 3 s^6) \right) / \\ & \quad \left((4 (r + 4 R))^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$|X_{99}X_{145}|^2: \frac{4 (3 r^6 + 20 r^5 R - 20 r R s^4 + s^6 + r^4 (16 R^2 - 17 s^2) + r^3 (-64 R^3 + 96 R s^2) + r^2 (68 R^2 s^2 - 3 s^4))}{r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)}$$

$$\begin{aligned} |X_{99}X_{190}|^2: & - \left((16 r^4 (r^6 + 20 r^5 R - 64 R^4 s^2 + 28 R^2 s^4 - 3 s^6 + r^4 (160 R^2 - s^2) + 40 r^3 (16 R^3 - R s^2) + \right. \\ & \quad r^2 (1280 R^4 - 276 R^2 s^2 - 5 s^4) + 4 r (256 R^5 - 136 R^3 s^2 + 17 R s^4)) \Big) / \\ & \quad \left((-3 r^2 - 12 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$\begin{aligned} |X_{99}X_{192}|^2: & - \left((4 (r^{10} + 20 r^9 R + 20 r R s^8 - s^{10} + 5 r^8 (32 R^2 - s^2) + 32 r^7 (20 R^3 - 3 R s^2) + 2 r^6 \right. \\ & \quad (640 R^4 - 282 R^2 s^2 - 3 s^4) + 8 r^5 (128 R^5 - 148 R^3 s^2 + 27 R s^4) + \\ & \quad r^4 (-576 R^4 s^2 + 472 R^2 s^4 + 6 s^6) + 32 r^3 (11 R^3 s^4 - 5 R s^6) + r^2 (-84 R^2 s^6 + 5 s^8)) \Big) / \\ & \quad \left((r^2 + 4 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$\begin{aligned} |X_{99}X_{194}|^2: & - \left((4 (r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} + 8 r^3 R s^8 (64 R^2 - 11 s^2) + r^{12} (336 R^2 - 3 s^2) + \right. \\ & \quad 3 r^2 s^{10} (-76 R^2 + s^2) + 8 r^{11} (280 R^3 - 11 R s^2) + r^{10} (8960 R^4 - 932 R^2 s^2 - 15 s^4) + \\ & \quad r^4 s^6 (1408 R^4 + 64 R^2 s^2 + 15 s^4) + 4 r^9 (5376 R^5 - 1168 R^3 s^2 - 23 R s^4) + \\ & \quad r^8 (28672 R^6 - 11392 R^4 s^2 - 304 R^2 s^4 - 11 s^6) + \\ & \quad 16 r^7 (1024 R^7 - 704 R^5 s^2 - 140 R^3 s^4 + 3 R s^6) + \\ & \quad r^6 (-1024 R^6 s^2 - 7680 R^4 s^4 + 1256 R^2 s^6 + 11 s^8) - \\ & \quad \left. 4 r^5 (1536 R^5 s^4 - 784 R^3 s^6 + 23 R s^8)) \right) / \\ & \quad \left((r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{99}X_{200}|^2:$$

$$\frac{r^2 \left(r^6 + 16 r^5 R + 8 r^3 R (8 R^2 + s^2) + r^4 (80 R^2 + 3 s^2) + (-8 R^2 s + s^3)^2 + r^2 (-512 R^4 - 16 R^2 s^2 + 3 s^4) - 8 r (128 R^5 - 56 R^3 s^2 + 5 R s^4) \right)}{(r-2R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{210}|^2:$$

$$\frac{-3 r^7 - 52 r^6 R - r s^6 + R s^6 - 7 r^5 (48 R^2 + s^2) + r^4 (-960 R^3 + R s^2) + r^3 (-1024 R^4 + 176 R^2 s^2 - 37 s^4) + r^2 (-192 R^3 s^2 + 38 R s^4)}{9 R (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{213}|^2:$$

$$\begin{aligned} & - \left((r^{14} + 28 r^{13} R + 20 r R s^{12} - s^{14} - 56 r^3 R s^8 (8 R^2 - s^2) - r^2 s^{10} (36 R^2 + 5 s^2) + r^{12} \right. \\ & \quad (336 R^2 + 5 s^2) + 8 r^{11} (280 R^3 + 11 R s^2) - 3 r^4 s^6 (128 R^4 + 64 R^2 s^2 + 3 s^4) + \\ & \quad r^{10} (8960 R^4 + 668 R^2 s^2 + 9 s^4) + 4 r^9 (5376 R^5 + 752 R^3 s^2 + 23 R s^4) + \\ & \quad r^8 (28672 R^6 + 9088 R^4 s^2 + 208 R^2 s^4 + 5 s^6) + 16 r^7 (1024 R^7 + 1088 R^5 s^2 - 8 R^3 s^4 + 3 R s^6) + \\ & \quad \left. r^6 (15360 R^6 s^2 + 1024 R^4 s^4 - 280 R^2 s^6 - 5 s^8) + 4 r^5 (1280 R^5 s^4 - 464 R^3 s^6 + 13 R s^8) \right) / \\ & \quad \left((r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$|X_{99}X_{238}|^2:$$

$$\begin{aligned} & (-3 r^{10} - 64 r^9 R - 32 r R s^8 + s^{10} - 32 r^3 R s^4 (8 R^2 + s^2) - 96 r^7 R (24 R^2 + s^2) - r^8 (544 R^2 + 11 s^2) - \\ & \quad 32 r^5 R (128 R^4 + 64 R^2 s^2 + s^4) - 2 r^6 (2432 R^4 + 240 R^2 s^2 + 7 s^4) + \\ & \quad r^4 (-3840 R^4 s^2 + 608 R^2 s^4 - 6 s^6) + r^2 (288 R^2 s^6 + s^8)) / \\ & \quad \left((-3 r^2 - 12 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$|X_{99}X_{239}|^2:$$

$$\begin{aligned} & - \left((4 (r^{10} + 20 r^9 R + 28 r R s^8 - s^{10} + 128 r^7 R (5 R^2 + s^2) + r^8 (160 R^2 + 11 s^2) + 2 r^6 \right. \\ & \quad (640 R^4 + 294 R^2 s^2 + 13 s^4) + 32 r^5 (32 R^5 + 43 R^3 s^2 + 3 R s^4) + \\ & \quad \left. 2 r^4 (736 R^4 s^2 + 12 R^2 s^4 + 11 s^6) + 112 r^3 (2 R^3 s^4 - R s^6) + r^2 (-212 R^2 s^6 + 5 s^8) \right) / \\ & \quad \left((-3 r^2 - 12 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$|X_{99}X_{244}|^2:$$

$$\begin{aligned} & (-3 r^{10} - 16 r^9 R - 40 r R s^8 + s^{10} + r^8 (80 R^2 - 11 s^2) - \\ & \quad 8 r^3 R s^4 (232 R^2 + s^2) + 8 r^7 (72 R^3 + 53 R s^2) + 2 r^6 (256 R^4 + 624 R^2 s^2 - 7 s^4) - \\ & \quad 8 r^5 (128 R^5 - 80 R^3 s^2 + 5 R s^4) - 2 r^4 (1504 R^4 s^2 + 56 R^2 s^4 + 3 s^6) + r^2 (512 R^2 s^6 + s^8)) / \\ & \quad \left((r^2 - 14 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2)) \right) \end{aligned}$$

$$|X_{99}X_{304}|^2:$$

$$-\frac{256 r^4 R s^4 (r^5 + 12 r^4 R - 4 R^3 s^2 + R s^4 + r^3 (52 R^2 - 4 s^2) + r^2 (96 R^3 - 23 R s^2) + r (64 R^4 - 32 R^2 s^2 + 3 s^4))}{(r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{306}|^2:$$

$$-\frac{4 r^4 (r^6 + 16 r^5 R - 16 R^4 s^2 - 84 R^2 s^4 + 21 s^6 + r^4 (100 R^2 + 7 s^2) + 16 r^3 (19 R^3 + 2 R s^2) + r^2 (448 R^4 + 48 R^2 s^2 - 37 s^4) + 16 r (16 R^5 + R^3 s^2 - 7 R s^4))}{(-3 r^2 - 6 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{312}|^2:$$

$$-\frac{64 r^4 R (r^4 R - 4 R^3 s^2 + 2 r^3 (6 R^2 - s^2) + r^2 (48 R^3 - 11 R s^2) + r (64 R^4 - 40 R^2 s^2 + 6 s^4))}{(r^2 - 8 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{319}|^2:$$

$$\frac{64 r^2 (2 r - R) s^4 (2 r^3 + 11 r^2 R + 16 r R^2 - 6 r s^2 - R s^2)}{(r^2 + 4 r R - 3 s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{320}|^2:$$

$$\frac{64 r^2 (2 r - R) s^4 (6 r^3 + 19 r^2 R + 16 r R^2 - 2 r s^2 - R s^2)}{(-3 r^2 - 12 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{321}|^2:$$

$$-\frac{16 r^2 R (r^6 R - R s^6 + 4 r^5 (3 R^2 - s^2) + r^4 (48 R^3 - 31 R s^2) + 8 r^3 (8 R^4 - 13 R^2 s^2 + 3 s^4) + r^2 (-68 R^3 s^2 + 47 R s^4) + 4 r (5 R^2 s^4 - s^6))}{(r^2 - 2 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$|X_{99}X_{345}|^2:$$

$$-\frac{16 r^4 (r^6 + 16 r^5 R - 16 R^4 s^2 - 8 R^2 s^4 + 3 s^6 + 5 r^4 (20 R^2 + s^2) + 4 r^3 (76 R^3 + 3 R s^2) + r^2 (448 R^4 - 16 R^2 s^2 - 9 s^4) + 4 r (64 R^5 - 12 R^3 s^2 - 5 R s^4))}{(-5 r^2 - 8 r R + s^2)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 - 7 s^2))}$$

$$\begin{aligned}
& |X_{99}X_{346}|^2: \\
& \quad - \frac{4r^4(r^6+20r^5R-64R^4s^2-16R^2s^4+7s^6+r^4(160R^2+s^2)+16r^3(40R^3-Rs^2)+r^2(1280R^4-180R^2s^2-9s^4)+4r(256R^5-104R^3s^2-Rs^4))}{(-2r^2-8rR+s^2)^2(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))} \\
& |X_{99}X_{350}|^2: \\
& \quad - \frac{64r^2Rs^4(2r^7+15r^6R-35r^2Rs^4-Rs^6+6r^3s^2(-4R^2+s^2)+6r^5(4R^2+s^2)+r^4(-16R^3+45Rs^2)+2r(8R^2s^4+s^6))}{(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2-7s^2))(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
& |X_{141}X_{142}|^2: \\
& \quad \frac{Rs^4(-r^3-8r^2R+Rs^2+r(-16R^2+s^2))}{(r+4R)^2(r^2+4rR-s^2)^2} \\
& |X_{141}X_{145}|^2: \\
& \quad \frac{39r^6+212r^5R-204rRs^4+9s^6-r^4(176R^2+81s^2)-8r^3(200R^3+7Rs^2)+r^2(1060R^2s^2+33s^4)}{4(r^2+4rR-s^2)^2} \\
& |X_{141}X_{190}|^2: \\
& \quad (-25r^{10}-500r^9R-16000r^7R^3-36rRs^8+s^{10}-25r^8(160R^2+3s^2)+ \\
& \quad r^6(-32000R^4+4500R^2s^2+166s^4)-8r^5(3200R^5-2100R^3s^2+9Rs^4)+ \\
& \quad 6r^4(2400R^4s^2-644R^2s^4-9s^6)+r^3(-3680R^3s^4+416Rs^6)+r^2(500R^2s^6-13s^8))/ \\
& \quad (4(3r^4+24r^3R-16rRs^2+s^4+r^2(48R^2-4s^2))^2) \\
& |X_{141}X_{192}|^2: \\
& \quad \frac{1}{4(r^4+8r^3R+16r^2R^2-s^4)^2} \\
& \quad (-9r^{10}-180r^9R-228rRs^8+9s^{10}-3r^8(480R^2+s^2)-384r^7(15R^3-Rs^2)+ \\
& \quad 6r^6(-1920R^4+654R^2s^2+s^4)-8r^5(1152R^5-1524R^3s^2+89Rs^4)+ \\
& \quad 2r^4(5664R^4s^2-2236R^2s^4-3s^6)+r^3(-6112R^3s^4+544Rs^6)+r^2(1684R^2s^6+3s^8)) \\
& |X_{141}X_{194}|^2: \\
& \quad (-9r^{14}-252r^{13}R-252rRs^{12}+9s^{14}-168r^{11}R(120R^2+s^2)-21r^{12}(144R^2+s^2)- \\
& \quad 24r^3Rs^8(192R^2+7s^2)+3r^2s^{10}(684R^2+7s^2)+r^{10}(-80640R^4+708R^2s^2-9s^4)- \\
& \quad 12r^9(16128R^5-944R^3s^2-5Rs^4)+r^8(-258048R^6+41088R^4s^2+2608R^2s^4+3s^6)- \\
& \quad 16r^7(9216R^7-3264R^5s^2-1196R^3s^4+3Rs^6)+ \\
& \quad r^6(9216R^6s^2+54784R^4s^4-4904R^2s^6-3s^8)+ \\
& \quad 4r^5(13824R^5s^4-5264R^3s^6+15Rs^8)+r^4(-12672R^4s^6+2368R^2s^8+9s^{10}))/ \\
& \quad (4(r^6+12r^5R+12rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-Rs^2)-r^2(48R^2s^2+s^4))^2) \\
& |X_{141}X_{200}|^2: \\
& \quad \frac{1}{4(r-2R)^2(r^2+4rR-s^2)^2} \\
& \quad (3r^8+40r^7R+4R^2s^6+3r^6(52R^2-3s^2)+4rRs^4(-28R^2+s^2)-4r^5(12R^3+13Rs^2)- \\
& \quad 8r^3R(288R^4-82R^2s^2+s^4)+r^4(-1472R^4+16R^2s^2+5s^4)+r^2(912R^4s^2-92R^2s^4+s^6)) \\
& |X_{141}X_{210}|^2: \\
& \quad \frac{-6r^7-97r^6R+R^5s^6+14r^5(-42R^2+s^2)+r^4(-1584R^3+151Rs^2)-2r^3(800R^4-256R^2s^2+5s^4)+5r^2(84R^3s^2-11Rs^4)+r(-36R^2s^4+2s^6)}{36R(r^2+4rR-s^2)^2} \\
& |X_{141}X_{213}|^2: \\
& \quad (-r^{14}-28r^{13}R-20rRs^{12}+s^{14}+32r^3Rs^8(5R^2-3s^2)-160r^{11}R(14R^2+s^2)- \\
& \quad 3r^{12}(112R^2+3s^2)+r^2s^{10}(52R^2+9s^2)+r^4s^6(704R^4+224R^2s^2-11s^4)+ \\
& \quad r^{10}(-8960R^4-1148R^2s^2+11s^4)-4r^9(5376R^5+1072R^3s^2-25Rs^4)+ \\
& \quad r^8(-28672R^6-9088R^4s^2+240R^2s^4+19s^6)-32r^7(512R^7+352R^5s^2+7R^3s^4-8Rs^6)- \\
& \quad r^6(7168R^6s^2+1792R^4s^4-968R^2s^6+19s^8)-4r^5(640R^5s^4-304R^3s^6+13Rs^8))/ \\
& \quad (4(r^6+12r^5R-r^2s^4-8rRs^4+s^6+r^4(48R^2-s^2)+r^3(64R^3-4Rs^2))^2) \\
& |X_{141}X_{238}|^2: \\
& \quad (3r^{10}+44r^9R-28rRs^8+s^{10}+r^8(224R^2-67s^2)+8r^7(48R^3-85Rs^2)- \\
& \quad 2r^6(128R^4+1158R^2s^2-59s^4)-16r^5(64R^5+190R^3s^2-45Rs^4)- \\
& \quad 2r^4(736R^4s^2-468R^2s^4+31s^6)-8r^3(28R^3s^4+15Rs^6)+r^2(212R^2s^6+7s^8))/ \\
& \quad (4(3r^4+24r^3R-16rRs^2+s^4+r^2(48R^2-4s^2))^2)
\end{aligned}$$

$$|X_{141}X_{239}|^2:$$

$$\begin{aligned} & - \left((r^{10} + 20 r^9 R + 228 r R s^8 - 9 s^{10} + r^8 (160 R^2 + 19 s^2) + 128 r^7 (5 R^3 + 2 R s^2) + 2 \right. \\ & \quad r^6 (640 R^4 + 678 R^2 s^2 - 51 s^4) + 8 r^5 (128 R^5 + 428 R^3 s^2 - 83 R s^4) + \\ & \quad \left. 2 r^4 (1760 R^4 s^2 - 244 R^2 s^4 + 59 s^6) + 32 r^3 (67 R^3 s^4 + 3 R s^6) - r^2 (1492 R^2 s^6 + 27 s^8) \right) / \\ & \quad \left(4 (3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2))^2 \right) \end{aligned}$$

$$\begin{aligned} |X_{141}X_{244}|^2: & \quad (-5 r^{10} - 80 r^9 R - 40 r R s^8 + s^{10} - 3 r^8 (172 R^2 + s^2) - 8 r^7 (214 R^3 - 21 R s^2) + \\ & \quad r^6 (-3008 R^4 + 1056 R^2 s^2 + 6 s^4) - 24 r^5 (96 R^5 - 146 R^3 s^2 + 7 R s^4) + \\ & \quad 2 r^4 (2376 R^4 s^2 - 378 R^2 s^4 + s^6) - 8 r^3 (372 R^3 s^4 - 7 R s^6) + r^2 (552 R^2 s^6 - s^8) \Big) / \\ & \quad \left(4 (-r^4 + 10 r^3 R + 56 r^2 R^2 - 18 r R s^2 + s^4)^2 \right) \end{aligned}$$

$$|X_{141}X_{304}|^2:$$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 28 r R s^{12} + s^{14} - 8 r^3 R s^8 (256 R^2 - 33 s^2) + r^2 s^{10} (292 R^2 - 7 s^2) + \\ & \quad 7 r^{12} (-48 R^2 + s^2) - 40 r^{11} (56 R^3 - 5 R s^2) + r^{10} (-8960 R^4 + 2212 R^2 s^2 - 5 s^4) + \\ & \quad r^4 s^6 (8576 R^4 - 2512 R^2 s^2 + 5 s^4) - 4 r^9 (5376 R^5 - 3088 R^3 s^2 + 105 R s^4) - \\ & \quad r^8 (28672 R^6 - 36992 R^4 s^2 + 4832 R^2 s^4 + 13 s^6) - \\ & \quad 16 r^7 (1024 R^7 - 3520 R^5 s^2 + 1332 R^3 s^4 - 35 R s^6) + r^6 \\ & \quad (33792 R^6 s^2 - 39680 R^4 s^4 + 5176 R^2 s^6 + 13 s^8) - 4 r^5 (6144 R^5 s^4 - 3312 R^3 s^6 + 137 R s^8) \Big) / \\ & \quad \left(4 (r^6 + 12 r^5 R + 64 r^3 R^3 - 12 r R s^4 + s^6 + r^4 (48 R^2 - s^2) + r^2 (16 R^2 s^2 - s^4))^2 \right) \end{aligned}$$

$$|X_{141}X_{306}|^2:$$

$$\begin{aligned} & - \left((r^{10} + 16 r^9 R + 24 r R s^8 - s^{10} - 8 r^3 R s^4 (-52 R^2 + s^2) + r^8 (100 R^2 + 3 s^2) + 8 r^7 \right. \\ & \quad (38 R^3 - 3 R s^2) + 2 r^6 (224 R^4 - 120 R^2 s^2 + s^4) + 8 r^5 (32 R^5 - 78 R^3 s^2 + 7 R s^4) - \\ & \quad \left. 2 r^4 (264 R^4 s^2 - 106 R^2 s^4 + s^6) - r^2 (152 R^2 s^6 + 3 s^8) \right) / \\ & \quad \left(4 (3 r^4 + 18 r^3 R - 10 r R s^2 + s^4 + 4 r^2 (6 R^2 - s^2))^2 \right) \end{aligned}$$

$$\begin{aligned} |X_{141}X_{312}|^2: & \quad (-r^{10} - 28 r^9 R - 28 r R s^8 + s^{10} + r^8 (-304 R^2 + 5 s^2) - 16 r^7 (100 R^3 - 7 R s^2) + \\ & \quad r^6 (-4096 R^4 + 996 R^2 s^2 + 6 s^4) - 8 r^5 (512 R^5 - 472 R^3 s^2 + 21 R s^4) + \\ & \quad 2 r^4 (1664 R^4 s^2 - 628 R^2 s^4 - 3 s^6) - 16 r^3 (80 R^3 s^4 - 11 R s^6) + 5 r^2 (52 R^2 s^6 - s^8) \Big) / \\ & \quad \left(4 (-r^4 + 4 r^3 R + 32 r^2 R^2 - 12 r R s^2 + s^4)^2 \right) \end{aligned}$$

$$|X_{141}X_{319}|^2:$$

$$\begin{aligned} & - \left((r^{10} + 20 r^9 R + 228 r R s^8 - 9 s^{10} + r^8 (160 R^2 + 19 s^2) + 128 r^7 (5 R^3 + 2 R s^2) + 2 \right. \\ & \quad r^6 (640 R^4 + 678 R^2 s^2 - 51 s^4) + 8 r^5 (128 R^5 + 428 R^3 s^2 - 83 R s^4) + \\ & \quad \left. 2 r^4 (1760 R^4 s^2 - 244 R^2 s^4 + 59 s^6) + 32 r^3 (67 R^3 s^4 + 3 R s^6) - r^2 (1492 R^2 s^6 + 27 s^8) \right) / \\ & \quad \left(4 (r^4 + 8 r^3 R - 16 r R s^2 + 3 s^4 + 4 r^2 (4 R^2 - s^2))^2 \right) \end{aligned}$$

$$|X_{141}X_{320}|^2:$$

$$\begin{aligned} & (-9 r^{10} - 180 r^9 R - 5760 r^7 R^3 - 4 r R s^8 + s^{10} - 96 r^3 R s^4 (R^2 + s^2) - 9 r^8 (160 R^2 + 3 s^2) - \\ & \quad 2 r^6 (5760 R^4 - 810 R^2 s^2 - 59 s^4) + r^5 (-9216 R^5 + 6048 R^3 s^2 + 344 R s^4) + \\ & \quad 2 r^4 (2592 R^4 s^2 - 268 R^2 s^4 - 51 s^6) + r^2 (-204 R^2 s^6 + 19 s^8) \Big) / \\ & \quad \left(4 (3 r^4 + 24 r^3 R - 16 r R s^2 + s^4 + r^2 (48 R^2 - 4 s^2))^2 \right) \end{aligned}$$

$$\begin{aligned}
|X_{141}X_{321}|^2: & \quad (-r^{10} - 24 r^9 R - 32 r R s^8 + s^{10} + r^8 (-228 R^2 + 5 s^2) - \\
& \quad 8 r^7 (134 R^3 - 15 R s^2) + 6 r^6 (-416 R^4 + 168 R^2 s^2 + s^4) - 8 r^5 (288 R^5 - 418 R^3 s^2 + 21 R s^4) + \\
& \quad 2 r^4 (1608 R^4 s^2 - 650 R^2 s^4 - 3 s^6) - 8 r^3 (200 R^3 s^4 - 21 R s^6) + r^2 (344 R^2 s^6 - 5 s^8)) / \\
& \quad (4 (r^4 + 2 r^3 R - 8 r^2 R^2 + 6 r R s^2 - s^4)^2) \\
|X_{141}X_{345}|^2: & \quad (-9 r^{10} - 156 r^9 R - 28 r R s^8 + s^{10} - 32 r^7 R (114 R^2 + s^2) - r^8 (1072 R^2 + 39 s^2) + \\
& \quad r^6 (-6144 R^4 + 1092 R^2 s^2 + 42 s^4) - 8 r^5 (512 R^5 - 456 R^3 s^2 + 17 R s^4) + \\
& \quad r^4 (3328 R^4 s^2 - 984 R^2 s^4 + 6 s^6) - 32 r^3 (40 R^3 s^4 - 3 R s^6) + r^2 (260 R^2 s^6 - s^8)) / \\
& \quad (4 (5 r^4 + 28 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 6 s^2))^2) \\
|X_{141}X_{346}|^2: & \quad (-4 r^{10} - 80 r^9 R - 28 r R s^8 + s^{10} - 8 r^8 (80 R^2 + s^2) - 64 r^7 (40 R^3 - R s^2) + \\
& \quad r^6 (-5120 R^4 + 1104 R^2 s^2 + 15 s^4) - 4 r^5 (1024 R^5 - 928 R^3 s^2 + 35 R s^4) + \\
& \quad r^4 (3328 R^4 s^2 - 1120 R^2 s^4 - s^6) - 8 r^3 (160 R^3 s^4 - 17 R s^6) + r^2 (260 R^2 s^6 - 3 s^8)) / \\
& \quad (4 (2 r^4 + 16 r^3 R - 12 r R s^2 + s^4 + r^2 (32 R^2 - 3 s^2))^2) \\
|X_{141}X_{350}|^2: & \quad (-r^{14} - 28 r^{13} R - 12 r R s^{12} + s^{14} + r^{12} (-336 R^2 + 3 s^2) - \\
& \quad r^2 s^{10} (92 R^2 + 3 s^2) + 8 r^3 R s^8 (56 R^2 + 13 s^2) - 8 r^{11} (280 R^3 - 13 R s^2) + \\
& \quad 3 r^4 s^6 (128 R^4 + 192 R^2 s^2 - 5 s^4) + r^{10} (-8960 R^4 + 1252 R^2 s^2 + 15 s^4) + \\
& \quad r^9 (-21504 R^5 + 7232 R^3 s^2 + 108 R s^4) + r^8 (-28672 R^6 + 21632 R^4 s^2 + 176 R^2 s^4 + 11 s^6) - \\
& \quad 16 r^7 (1024 R^7 - 1984 R^5 s^2 + 24 R^3 s^4 + 5 R s^6) + \\
& \quad r^6 (17408 R^6 s^2 - 3072 R^4 s^4 - 1768 R^2 s^6 - 11 s^8) - 4 r^5 (1792 R^5 s^4 + 816 R^3 s^6 - 15 R s^8)) / \\
& \quad (4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 16 r^3 (4 R^3 - R s^2) - r^2 (80 R^2 s^2 + s^4))^2) \\
|X_{142}X_{145}|^2: & \quad \frac{39 r^4 + 212 r^3 R + 100 R^2 s^2 + r^2 (-176 R^2 + 3 s^2) - 40 r (40 R^3 - R s^2)}{4 (r + 4 R)^2} \\
|X_{142}X_{190}|^2: & \quad \frac{1}{4 (r + 4 R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
& \quad (-25 r^8 - 500 r^7 R + 36 R^2 s^6 - 320 r^5 R (50 R^2 + s^2) - 5 r^6 (800 R^2 + 19 s^2) + \\
& \quad r^4 (-32000 R^4 + 2580 R^2 s^2 - 3 s^4) - 20 r^3 (1280 R^5 - 584 R^3 s^2 + 9 R s^4) + \\
& \quad r^2 (9280 R^4 s^2 - 936 R^2 s^4 + 3 s^6) - 24 r (44 R^3 s^4 - R s^6)) \\
|X_{142}X_{192}|^2: & \quad -\frac{1}{4 (r + 4 R)^2 (r^2 + 4 r R + s^2)^2} (9 r^8 + 180 r^7 R - 100 R^2 s^6 + 15 r^6 (96 R^2 + s^2) + 192 r^5 (30 R^3 - R s^2) + \\
& \quad 3 r^4 (3840 R^4 - 924 R^2 s^2 + s^4) + 4 r^3 (2304 R^5 - 2280 R^3 s^2 + 25 R s^4) + \\
& \quad r^2 (-8256 R^4 s^2 + 872 R^2 s^4 - 3 s^6) + 40 r (52 R^3 s^4 - R s^6)) \\
|X_{142}X_{194}|^2: & \quad -\left((9 r^{12} + 252 r^{11} R - 100 R^2 s^{10} + 40 r R s^8 (48 R^2 - s^2) + r^{10} (3024 R^2 + 33 s^2) + 24 \right. \\
& \quad \left. r^9 (840 R^3 + 19 R s^2) - 3 r^2 s^6 (1152 R^4 - 160 R^2 s^2 + s^4) + \right. \\
& \quad \left. 6 r^8 (13440 R^4 + 362 R^2 s^2 + 7 s^4) + 8 r^7 (24192 R^5 + 504 R^3 s^2 + 25 R s^4) + \right. \\
& \quad \left. 64 r^5 (2304 R^7 + 336 R^5 s^2 - 293 R^3 s^4) + 6 r^6 (43008 R^6 + 832 R^4 s^2 - 376 R^2 s^4 + 3 s^6) + \right. \\
& \quad \left. r^4 (39936 R^6 s^2 - 44288 R^4 s^4 + 200 R^2 s^6 - 3 s^8) - 4 r^3 (7424 R^5 s^4 - 80 R^3 s^6 + 9 R s^8) \right) / \\
& \quad (4 (r + 4 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2) \\
|X_{142}X_{200}|^2: & \quad \frac{3 r^6 + 40 r^5 R + 144 R^4 s^2 + r^4 (156 R^2 - s^2) + r^3 (-48 R^3 + 4 R s^2) - 32 r^2 (46 R^4 - R^2 s^2) - 144 r (16 R^5 - R^3 s^2)}{4 (r^2 + 2 r R - 8 R^2)^2} \\
|X_{142}X_{210}|^2: & \quad \frac{-6 r^5 - 97 r^4 R + 100 R^3 s^2 + r^3 (-588 R^2 + 2 s^2) + r^2 (-1584 R^3 + 35 R s^2) - 160 r (10 R^4 - R^2 s^2)}{36 R (r + 4 R)^2}
\end{aligned}$$

$$\begin{aligned}
& |X_{142}X_{213}|^2: \\
& - \left((r^{12} + 28 r^{11} R + 32 r R^3 s^8 - 4 R^2 s^{10} + 160 r^9 R (14 R^2 + s^2) + r^{10} (336 R^2 + 9 s^2) + \right. \\
& \quad r^2 s^6 (320 R^4 - 64 R^2 s^2 + s^4) + 2 r^8 (4480 R^4 + 574 R^2 s^2 + 3 s^4) + \\
& \quad 8 r^7 (2688 R^5 + 536 R^3 s^2 + 15 R s^4) + 2 r^6 (14336 R^6 + 4544 R^4 s^2 + 384 R^2 s^4 - 5 s^6) + \\
& \quad 32 r^5 (512 R^7 + 352 R^5 s^2 + 65 R^3 s^4 - 2 R s^6) + r^4 (7168 R^6 s^2 + 2816 R^4 s^4 - 40 R^2 s^6 - 7 s^8) + \\
& \quad \left. 4 r^3 (640 R^5 s^4 + 64 R^3 s^6 - 13 R s^8) \right) / \left(4 (r + 4 R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2 \right) \\
& |X_{142}X_{238}|^2: \quad \frac{1}{4 (r+4 R)^2 (-3 r^2 - 12 r R + s^2)^2} (3 r^8 + 44 r^7 R - 32 r R^3 s^4 + 4 R^2 s^6 + \\
& \quad r^6 (224 R^2 - 43 s^2) + 8 r^5 (48 R^3 - 47 R s^2) + r^4 (-256 R^4 - 972 R^2 s^2 + 17 s^4) - \\
& \quad 4 r^3 (256 R^5 + 184 R^3 s^2 - 23 R s^4) - r^2 (448 R^4 s^2 - 88 R^2 s^4 + s^6)) \\
& |X_{142}X_{239}|^2: \\
& - \frac{1}{4 (r+4 R)^2 (-3 r^2 - 12 r R + s^2)^2} (r^8 + 20 r^7 R - 100 R^2 s^6 + 5 r^6 (32 R^2 + 3 s^2) + 64 r^5 (10 R^3 + 3 R s^2) + \\
& \quad r^4 (1280 R^4 + 972 R^2 s^2 - 53 s^4) + 4 r^3 (256 R^5 + 600 R^3 s^2 - 79 R s^4) + \\
& \quad r^2 (2496 R^4 s^2 - 56 R^2 s^4 - 3 s^6) + 40 r (36 R^3 s^4 - R s^6)) \\
& |X_{142}X_{244}|^2: \quad \frac{1}{4 (r+4 R)^2 (r^2 - 14 r R + s^2)^2} \\
& \quad (-5 r^8 - 80 r^7 R - 112 r R^3 s^4 + 4 R^2 s^6 - r^6 (516 R^2 + 11 s^2) + r^5 (-1712 R^3 + 48 R s^2) + \\
& \quad r^3 (-2304 R^5 + 688 R^3 s^2) + r^4 (-3008 R^4 + 240 R^2 s^2 - 7 s^4) + r^2 (912 R^4 s^2 - 24 R^2 s^4 - s^6)) \\
& |X_{142}X_{304}|^2: \\
& (-r^{12} - 28 r^{11} R + 36 R^2 s^{10} + 24 r R s^8 (-32 R^2 + s^2) + r^{10} (-336 R^2 + 3 s^2) - 8 r^9 (280 R^3 - 13 R s^2) + \\
& \quad 2 r^8 (-4480 R^4 + 626 R^2 s^2 + s^4) + r^2 s^6 (3712 R^4 - 528 R^2 s^2 + 3 s^4) - \\
& \quad 8 r^7 (2688 R^5 - 904 R^3 s^2 + 19 R s^4) - 2 r^6 (14336 R^6 - 10816 R^4 s^2 + 1040 R^2 s^4 + 3 s^6) - \\
& \quad 64 r^5 (256 R^7 - 496 R^5 s^2 + 149 R^3 s^4 - 2 R s^6) + \\
& \quad r^4 (17408 R^6 s^2 - 17920 R^4 s^4 + 1656 R^2 s^6 - s^8) - 4 r^3 (2816 R^5 s^4 - 1328 R^3 s^6 + 19 R s^8)) / \\
& \quad (4 (r + 4 R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2) \\
& |X_{142}X_{306}|^2: \quad \frac{1}{4 (r+4 R)^2 (-3 r^2 - 6 r R + s^2)^2} \\
& \quad (-r^8 - 16 r^7 R + 36 R^2 s^6 + r^6 (-100 R^2 + s^2) + 24 r R s^4 (-26 R^2 + s^2) - 8 r^5 (38 R^3 - 9 R s^2) - \\
& \quad 16 r^3 R (16 R^4 - 63 R^2 s^2 + s^4) + r^4 (-448 R^4 + 448 R^2 s^2 + 5 s^4) + r^2 (784 R^4 s^2 - 264 R^2 s^4 + 3 s^6)) \\
& |X_{142}X_{312}|^2: \quad \frac{1}{4 (r+4 R)^2 (r^2 - 8 r R + s^2)^2} \\
& \quad (-r^8 - 28 r^7 R + 36 R^2 s^6 + r^6 (-304 R^2 + s^2) + 24 r R s^4 (-32 R^2 + s^2) + \\
& \quad r^5 (-1600 R^3 + 48 R s^2) + r^4 (-4096 R^4 + 676 R^2 s^2 + 5 s^4) - \\
& \quad 4 r^3 (1024 R^5 - 816 R^3 s^2 + 7 R s^4) + r^2 (3328 R^4 s^2 - 456 R^2 s^4 + 3 s^6)) \\
& |X_{142}X_{319}|^2: \\
& - \frac{1}{4 (r+4 R)^2 (r^2 + 4 r R - 3 s^2)^2} (r^8 + 20 r^7 R - 324 R^2 s^6 + 320 r^5 R (2 R^2 + s^2) + r^6 (160 R^2 + 23 s^2) + \\
& \quad r^4 (1280 R^4 + 1740 R^2 s^2 - 69 s^4) + 4 r^3 (256 R^5 + 1112 R^3 s^2 - 75 R s^4) + \\
& \quad r^2 (4544 R^4 s^2 + 1128 R^2 s^4 - 27 s^6) + 72 r (68 R^3 s^4 - 3 R s^6)) \\
& |X_{142}X_{320}|^2: \quad \frac{1}{4 (r+4 R)^2 (-3 r^2 - 12 r R + s^2)^2} \\
& \quad (-9 r^8 - 180 r^7 R + 36 R^2 s^6 + 24 r R s^4 (-12 R^2 + s^2) - 576 r^5 R (10 R^2 + s^2) - \\
& \quad 9 r^6 (160 R^2 + 7 s^2) + r^4 (-11520 R^4 - 1836 R^2 s^2 + 13 s^4) - \\
& \quad 4 r^3 (2304 R^5 + 792 R^3 s^2 - 35 R s^4) + r^2 (-4032 R^4 s^2 + 280 R^2 s^4 + 3 s^6))
\end{aligned}$$

$$\begin{aligned}
|X_{142}X_{321}|^2 &: \frac{1}{4(r+4R)^2(r^2-2rR+s^2)^2} \\
& \left(-r^8 - 24r^7R + 36R^2s^6 + r^6(-228R^2 + s^2) + 24rRs^4(-30R^2 + s^2) - \right. \\
& \quad 8r^5(134R^3 - 7Rs^2) - 24r^3R(96R^4 - 102R^2s^2 + s^4) + \\
& \quad \left. r^4(-2496R^4 + 640R^2s^2 + 5s^4) + r^2(2448R^4s^2 - 392R^2s^4 + 3s^6) \right) \\
|X_{142}X_{345}|^2 &: \frac{1}{4(r+4R)^2(-5r^2-8rR+s^2)^2} \\
& \left(-9r^8 - 156r^7R + 36R^2s^6 + 24rRs^4(-32R^2 + s^2) - r^6(1072R^2 + 27s^2) - \right. \\
& \quad 96r^5(38R^3 - Rs^2) + r^4(-6144R^4 + 1540R^2s^2 + s^4) + \\
& \quad \left. r^3(-4096R^5 + 4160R^3s^2 - 92Rs^4) + r^2(3328R^4s^2 - 504R^2s^4 + 3s^6) \right) \\
|X_{142}X_{346}|^2 &: \frac{1}{4(r+4R)^2(-2r^2-8rR+s^2)^2} \\
& \left(-4r^8 - 80r^7R + 36R^2s^6 + 24rRs^4(-32R^2 + s^2) - 8r^6(80R^2 + s^2) - \right. \\
& \quad 64r^5(40R^3 - Rs^2) + r^4(-5120R^4 + 1104R^2s^2 + 3s^4) - \\
& \quad \left. 4r^3(1024R^5 - 928R^3s^2 + 15Rs^4) + r^2(3328R^4s^2 - 480R^2s^4 + 3s^6) \right) \\
|X_{142}X_{350}|^2 &: \\
& \left(-r^{12} - 28r^{11}R + 36R^2s^{10} + 8r^9R(-280R^2 + s^2) + 24rRs^8(-24R^2 + s^2) - r^{10}(336R^2 + s^2) + \right. \\
& \quad r^8(-8960R^4 + 292R^2s^2 + 6s^4) + r^7(-21504R^5 + 2112R^3s^2 + 88Rs^4) - \\
& \quad 14r^6(2048R^6 - 448R^4s^2 - 72R^2s^4 - s^6) - 64r^5(256R^7 - 112R^5s^2 - 90R^3s^4 - Rs^6) + \\
& \quad r^4(1024R^6s^2 + 12544R^4s^4 - 232R^2s^6 + 11s^8) + \\
& \quad \left. 12r^3(512R^5s^4 + 48R^3s^6 + 3Rs^8) + r^2(-384R^4s^6 - 320R^2s^8 + 3s^{10}) \right) / \\
& \left(4(r+4R)^2(r^4 + 8r^3R - 16rRs^2 + s^4 + 2r^2(8R^2 + s^2))^2 \right) \\
|X_{145}X_{190}|^2 &: \frac{4(11r^6-12r^5R-36rRs^4+s^6-3r^4(208R^2+3s^2)-32r^3(50R^3-3Rs^2)+r^2(420R^2s^2-3s^4))}{(-3r^2-12rR+s^2)^2} \\
|X_{145}X_{192}|^2 &: -\frac{64r^2R(r^3+8r^2R+16rR^2-rs^2-Rs^2)}{(r^2+4rR+s^2)^2} \\
|X_{145}X_{194}|^2 &: \\
& -\frac{64r^2R(r^7+16r^6R-Rs^6-18r^2Rs^2(8R^2+s^2)+3r^5(32R^2+s^2)+r^4(256R^3+15Rs^2)+r^3(256R^4-24R^2s^2+3s^4)+r(24R^2s^4+s^6))}{(r^4+8r^3R-8rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{145}X_{200}|^2 &: \frac{(r-4R)^2(5r^2-16rR+s^2)}{(r-2R)^2} \\
|X_{145}X_{210}|^2 &: \frac{3r^3+56r^2R+25Rs^2+5r(-80R^2+s^2)}{9R} \\
|X_{145}X_{213}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2+4rRs^2-s^4)^2} \\
& \left(7r^{10} + 76r^9R - 28rRs^8 + s^{10} + r^8(96R^2 + 5s^2) - 32r^7(52R^3 - 3Rs^2) - \right. \\
& \quad 32r^5(288R^5 + 35R^3s^2) - 2r^6(3712R^4 - 138R^2s^2 + 5s^4) + \\
& \quad \left. r^4(-4032R^4s^2 + 424R^2s^4 - 6s^6) + 48r^3(10R^3s^4 - Rs^6) + 3r^2(60R^2s^6 + s^8) \right) \\
|X_{145}X_{238}|^2 &: \frac{57r^6+200r^5R-48rRs^4+s^6-r^4(1136R^2+13s^2)-8r^3(512R^3-19Rs^2)+r^2(768R^2s^2-5s^4)}{(-3r^2-12rR+s^2)^2} \\
|X_{145}X_{239}|^2 &: \frac{16r^2(r+4R)^2(5r^2-16rR+s^2)}{(-3r^2-12rR+s^2)^2} \\
|X_{145}X_{244}|^2 &: \frac{9r^6-328r^5R-48rRs^4+s^6+r^4(2704R^2+19s^2)-8r^3(512R^3+43Rs^2)+r^2(768R^2s^2+11s^4)}{(r^2-14rR+s^2)^2} \\
|X_{145}X_{304}|^2 &: \frac{1}{(r^4+8r^3R+16r^2R^2+8rRs^2-s^4)^2} \\
& 4(3r^{10} + 44r^9R - 28rRs^8 + s^{10} + r^8(224R^2 + s^2) + 8r^7(48R^3 + 5Rs^2) - \\
& \quad 32r^5R(32R^4 + 7R^2s^2 + s^4) - 2r^6(128R^4 - 90R^2s^2 + 3s^4) - \\
& \quad 2r^4(736R^4s^2 - 28R^2s^4 + s^6) - 8r^3(28R^3s^4 + 3Rs^6) + r^2(212R^2s^6 + 3s^8))
\end{aligned}$$

$$\begin{aligned}
|X_{145}X_{306}|^2 &: \frac{4(5r^2-16rR+s^2)(-2r^2-4rR+s^2)^2}{(-3r^2-6rR+s^2)^2} \\
|X_{145}X_{312}|^2 &: \frac{4(3r^6-44r^5R-28rRs^4+s^6-64r^3R(9R^2+s^2)+r^4(208R^2+7s^2)+r^2(228R^2s^2+5s^4))}{(r^2-8rR+s^2)^2} \\
|X_{145}X_{319}|^2 &: \frac{4(3r^6+20r^5R-156rRs^4+9s^6+r^4(16R^2-25s^2)-16r^3(4R^3+3Rs^2)+r^2(196R^2s^2+45s^4))}{(r^2+4rR-3s^2)^2} \\
|X_{145}X_{320}|^2 &: \frac{4(27r^6+180r^5R-28rRs^4+s^6+3r^4(48R^2-11s^2)-48r^3R(12R^2+s^2)+r^2(228R^2s^2+5s^4))}{(-3r^2-12rR+s^2)^2} \\
|X_{145}X_{321}|^2 &: \frac{4(3r^6-12r^5R-20rRs^4+s^6+r^4(32R^2+7s^2)-8r^3(8R^3+3Rs^2)+r^2(68R^2s^2+5s^4))}{(r^2-2rR+s^2)^2} \\
|X_{145}X_{345}|^2 &: \frac{4(51r^6-44r^5R-28rRs^4+s^6-r^4(560R^2+17s^2)-16r^3(36R^3-7Rs^2)+3r^2(76R^2s^2-s^4))}{(-5r^2-8rR+s^2)^2} \\
|X_{145}X_{346}|^2 &: \frac{4(7r^6+20r^5R-28rRs^4+s^6+24r^3R(-24R^2+s^2)-r^4(176R^2+9s^2)+r^2(228R^2s^2+s^4))}{(-2r^2-8rR+s^2)^2} \\
|X_{145}X_{350}|^2 &: \frac{(4(3r^{10}+44r^9R-36rRs^8+s^{10}+8r^7R(48R^2+s^2)+r^8(224R^2+13s^2)+r^6(-256R^4-396R^2s^2+22s^4)-8r^5(128R^5+28R^3s^2+19Rs^4)+2r^4(1312R^4s^2+420R^2s^4+9s^6)-8r^3(252R^3s^4+19Rs^6)+r^2(436R^2s^6+7s^8)))}{(r^4+8r^3R-16rRs^2+s^4+2r^2(8R^2+s^2))^2} \\
|X_{190}X_{192}|^2 &: -\left((4(r^{10}+20r^9R+36rRs^8-s^{10}+5r^8(32R^2-s^2)+128r^7(5R^3-Rs^2)+2r^6(640R^4-474R^2s^2-3s^4)+8r^5(128R^5-340R^3s^2+21Rs^4)+r^4(-2624R^4s^2+1272R^2s^4+6s^6)+32r^3(63R^3s^4-5Rs^6)+r^2(-436R^2s^6+5s^8)))\right) / (3r^4+24r^3R+8rRs^2-s^4+2r^2(24R^2+s^2))^2 \\
|X_{190}X_{194}|^2 &: -\left((4(r^{14}+28r^{13}R+44rRs^{12}-s^{14}+24r^3Rs^8(208R^2-5s^2)+r^{12}(336R^2-3s^2)+3r^2s^{10}(-236R^2+s^2)+56r^{11}(40R^3-Rs^2)+r^{10}(8960R^4-292R^2s^2-15s^4)+4r^9(5376R^5+112R^3s^2-19Rs^4)+r^8(28672R^6+9088R^4s^2-912R^2s^4-11s^6)+16r^7(1024R^7+1856R^5s^2-468R^3s^4-5Rs^6)+r^6(31744R^6s^2-16384R^4s^4+1736R^2s^6+11s^8)-4r^5(688R^3s^6+63Rs^8)+r^4(-13440R^4s^6+1312R^2s^8+15s^{10})))\right) / (3r^6+36r^5R+20rRs^4-s^6+r^4(144R^2+5s^2)+8r^3(24R^3-Rs^2)+r^2(-112R^2s^2+s^4))^2 \\
|X_{190}X_{200}|^2 &: -\frac{r^2(7r^6+80r^5R+r^4(304R^2+13s^2)+8r^3(56R^3-23Rs^2)-(-8R^2s+s^3)^2+r^2(512R^4-48R^2s^2+5s^4)+8r(128R^5-40R^3s^2+3Rs^4))}{(r-2R)^2(-3r^2-12rR+s^2)^2} \\
|X_{190}X_{210}|^2 &: \frac{9r^7+108r^6R+14r^2Rs^4+Rs^6+r^5(432R^2+33s^2)+r^4(576R^3-87Rs^2)+r^3(96R^2s^2-9s^4)-r(16R^2s^4+s^6)}{9R(-3r^2-12rR+s^2)^2} \\
|X_{190}X_{213}|^2 &: (-r^{14}-28r^{13}R-36rRs^{12}+s^{14}+r^{12}(-336R^2+3s^2)+r^{11}(-2240R^3+88Rs^2)-r^4s^6(1664R^4+320R^2s^2+15s^4)+r^{10}(-8960R^4+932R^2s^2+15s^4)+r^9(-21504R^5+4672R^3s^2+116Rs^4)+r^8(-28672R^6+11392R^4s^2+688R^2s^4+11s^6)-16r^7(1024R^7-704R^5s^2-276R^3s^4-Rs^6)+r^6(1024R^6s^2+12800R^4s^4-1320R^2s^6-11s^8)+20r^5(512R^5s^4-176R^3s^6+7Rs^8)+r^3(-1536R^3s^8+88Rs^{10})+r^2(420R^2s^{10}-3s^{12}))/ (3r^6+36r^5R-16rRs^4+s^6+r^4(144R^2-s^2)+4r^3R(48R^2+s^2)+r^2(32R^2s^2-3s^4))^2 \\
|X_{190}X_{238}|^2 &: \frac{-3r^6-40r^5R-24rRs^4+s^6-r^4(176R^2+5s^2)-64r^3(4R^3-Rs^2)+r^2(144R^2s^2-s^4)}{(-3r^2-12rR+s^2)^2}
\end{aligned}$$

$$|X_{190}X_{239}|^2: \quad - \frac{4(r^6+12r^5R+20rRs^4-s^6+r^4(48R^2+s^2)+8r^3(8R^3-5Rs^2)-r^2(68R^2s^2+s^4))}{(-3r^2-12rR+s^2)^2}$$

$$|X_{190}X_{244}|^2: \quad (5r^{10}-80r^9R-56rRs^8+s^{10}+r^8(-3376R^2+5s^2)-8r^7(3704R^3-55Rs^2)-2r^6(50944R^4-240R^2s^2+7s^4)-8r^5(15488R^5-5776R^3s^2-53Rs^4)+r^4(64064R^4s^2-6448R^2s^4-22s^6)-8r^3(1592R^3s^4-45Rs^6)+r^2(1216R^2s^6-7s^8))/(-3r^4+30r^3R-26rRs^2+s^4-2r^2(-84R^2+s^2))^2$$

$$|X_{190}X_{304}|^2: \quad - \left((16r^4(r^{10}+28r^9R-4R^2s^8+s^{10}+r^8(336R^2+s^2)+8r^7(280R^3-Rs^2)+r^6(8960R^4-292R^2s^2-2s^4)+48r^5R(448R^4-44R^2s^2+s^4)+r^4(28672R^6-6272R^4s^2+516R^2s^4-2s^6)+8r^3(2048R^7-896R^5s^2+164R^3s^4-7Rs^6)+r^2(-1024R^6s^2+576R^4s^4-76R^2s^6+s^8)+4r(8R^3s^6-3Rs^8))) / (3r^6+36r^5R-20rRs^4+s^6+r^4(144R^2-s^2)+16r^3R(12R^2+s^2)+r^2(80R^2s^2-3s^4))^2 \right)$$

$$|X_{190}X_{306}|^2: \quad - \left((4r^4(9r^6+144r^5R-144R^4s^2+12R^2s^4+5s^6+48r^3R(57R^2+s^2)+r^4(900R^2+39s^2)+r^2(4032R^4-336R^2s^2-29s^4)+16r(144R^5-39R^3s^2-2Rs^4))) / (9r^4+54r^3R-18rRs^2+s^4+r^2(72R^2-6s^2))^2 \right)$$

$$|X_{190}X_{312}|^2: \quad - \frac{16r^4(r^6+8r^5R-16R^4s^2-4R^2s^4+s^6-40r^3R(2R^2+s^2)+r^4(4R^2+3s^2)+r^2(-64R^4+48R^2s^2+3s^4)+16r(16R^5+3R^3s^2-Rs^4))}{(-3r^4+12r^3R-20rRs^2+s^4+r^2(96R^2-2s^2))^2}$$

$$|X_{190}X_{319}|^2: \quad - \left((16r^2(r^8+20r^7R-4R^2s^6+8rRs^4(4R^2+s^2)+64r^5R(10R^2+s^2)+r^6(160R^2+7s^2)+r^4(1280R^4+204R^2s^2-37s^4)+4r^3(256R^5+88R^3s^2-51Rs^4)+r^2(448R^4s^2-216R^2s^4+21s^6))) / (3r^4+24r^3R-40rRs^2+3s^4+2r^2(24R^2-5s^2))^2 \right)$$

$$|X_{190}X_{320}|^2: \quad - \frac{16r^2(r^4+12r^3R-4R^2s^2+r^2(48R^2+5s^2)+8r(8R^3-Rs^2))}{(-3r^2-12rR+s^2)^2}$$

$$|X_{190}X_{321}|^2: \quad - \left((16r^2(r^8+14r^7R+20rR^3s^4-R^2s^6+r^6(73R^2+3s^2)+4r^5(43R^3-5Rs^2)+r^4(176R^4-99R^2s^2+3s^4)+2r^3(32R^5-72R^3s^2-Rs^4)+r^2(-68R^4s^2+3R^2s^4+s^6))) / (3r^4+6r^3R+14rRs^2-s^4+r^2(-24R^2+2s^2))^2 \right)$$

$$|X_{190}X_{345}|^2: \quad - \frac{64r^4(r^6+14r^5R-4R^4s^2+R^2s^4+r^4(73R^2+4s^2)+r^3(172R^3-7Rs^2)+r^2(176R^4-39R^2s^2-s^4)+r(64R^5-32R^3s^2+3Rs^4))}{(15r^4+84r^3R-20rRs^2+s^4+r^2(96R^2-8s^2))^2}$$

$$|X_{190}X_{346}|^2: \quad - \frac{4r^4(r^6+20r^5R-64R^4s^2+3s^6+32r^3R(20R^2+s^2)+5r^4(32R^2+s^2)+r^2(1280R^4+12R^2s^2-9s^4)+4r(256R^5-40R^3s^2-9Rs^4))}{(6r^4+48r^3R-20rRs^2+s^4+r^2(96R^2-5s^2))^2}$$

$$|X_{190}X_{350}|^2:$$

$$\begin{aligned} & - \left((16 r^2 (r^{12} + 28 r^{11} R + 160 r R^3 s^8 - 4 R^2 s^{10} + r^{10} (336 R^2 + 5 s^2) + 16 r^9 (140 R^3 + 3 R s^2) + \right. \\ & \quad 2 r^8 (4480 R^4 - 66 R^2 s^2 + 5 s^4) + 8 r^7 (2688 R^5 - 424 R^3 s^2 - 3 R s^4) + \\ & \quad 2 r^6 (14336 R^6 - 8256 R^4 s^2 - 200 R^2 s^4 + 5 s^6) + 16 r^5 (1024 R^7 - 2112 R^5 s^2 + \\ & \quad 82 R^3 s^4 - 5 R s^6) + r^4 (-25600 R^6 s^2 + 10752 R^4 s^4 + 360 R^2 s^6 + 5 s^8) + \\ & \quad 4 r^3 (3200 R^5 s^4 - 272 R^3 s^6 - 9 R s^8) + r^2 (-2240 R^4 s^6 + 32 R^2 s^8 + s^{10})) \Big) / \\ & \quad \left((3 r^6 + 36 r^5 R + 28 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 32 r^3 (6 R^3 - R s^2) + r^2 (-208 R^2 s^2 + s^4)) \right)^2 \end{aligned}$$

$$|X_{192}X_{194}|^2:$$

$$- \frac{256 r^2 R^2 s^4 (3 r^6 + 40 r^5 R + 24 r R s^4 - s^6 + r^4 (176 R^2 + 5 s^2) + 64 r^3 (4 R^3 - R s^2) + r^2 (-144 R^2 s^2 + s^4))}{(r^6 + 12 r^5 R - 4 r R s^4 + s^6 + 8 r^3 R (8 R^2 + s^2) + 3 r^4 (16 R^2 + s^2) + r^2 (-16 R^2 s^2 + 3 s^4))^2}$$

$$|X_{192}X_{200}|^2:$$

$$\frac{-3 r^7 - 32 r^7 R + 72 r^5 R s^2 + 16 R^2 s^6 - 32 r^3 R s^2 (4 R^2 + s^2) - 8 r R s^4 (32 R^2 + s^2) - r^6 (96 R^2 + 5 s^2) + r^4 (256 R^4 - 96 R^2 s^2 - s^4) + r^2 (208 R^2 s^4 + s^6)}{(r - 2 R)^2 (r^2 + 4 r R + s^2)^2}$$

$$|X_{192}X_{210}|^2:$$

$$\frac{3 r^7 + 32 r^6 R + 9 r^4 R s^2 + 25 R s^6 + 5 r s^4 (-88 R^2 + s^2) + 2 r^2 R s^2 (328 R^2 + s^2) + r^5 (96 R^2 + 11 s^2) + r^3 (-256 R^4 + 456 R^2 s^2 + 13 s^4)}{9 R (r^2 + 4 r R + s^2)^2}$$

$$|X_{192}X_{213}|^2:$$

$$\begin{aligned} & (-r^{14} - 28 r^{13} R - 36 r R s^{12} + s^{14} - 8 r^3 R s^8 (88 R^2 - 9 s^2) + r^2 s^{10} (388 R^2 - 3 s^2) + \\ & \quad r^{12} (-336 R^2 + 3 s^2) - 8 r^{11} (280 R^3 - 13 R s^2) + r^{10} (-8960 R^4 + 1252 R^2 s^2 + 15 s^4) + \\ & \quad r^9 (-21504 R^5 + 7232 R^3 s^2 + 148 R s^4) + 16 r^7 R (-1024 R^6 + 1984 R^4 s^2 + 176 R^2 s^4 + s^6) + \\ & \quad r^8 (-28672 R^6 + 21632 R^4 s^2 + 720 R^2 s^4 + 11 s^6) + \\ & \quad r^6 (17408 R^6 s^2 + 6656 R^4 s^4 - 1224 R^2 s^6 - 11 s^8) + \\ & \quad 4 r^5 (1280 R^5 s^4 - 1328 R^3 s^6 + 27 R s^8) + r^4 (-6528 R^4 s^6 + 32 R^2 s^8 - 15 s^{10})) \Big) / \\ & \quad (r^6 + 12 r^5 R - s^6 + r^4 (48 R^2 + s^2) + 4 r^3 (16 R^3 + 3 R s^2) + r^2 (32 R^2 s^2 - s^4))^2 \end{aligned}$$

$$|X_{192}X_{238}|^2:$$

$$\begin{aligned} & (-15 r^{10} - 304 r^9 R - 56 r R s^8 + s^{10} + r^8 (-2464 R^2 + 5 s^2) + r^7 (-9984 R^3 + 696 R s^2) + \\ & \quad r^6 (-20224 R^4 + 6672 R^2 s^2 + 42 s^4) - 8 r^5 (2048 R^5 - 2656 R^3 s^2 + 71 R s^4) + \\ & \quad 2 r^4 (10752 R^4 s^2 - 2560 R^2 s^4 + 5 s^6) + r^3 (-8704 R^3 s^4 + 424 R s^6) + r^2 (1104 R^2 s^6 - 11 s^8)) \Big) / \\ & \quad (3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2))^2 \end{aligned}$$

$$|X_{192}X_{239}|^2:$$

$$\begin{aligned} & - \left((16 r^2 (r^8 + 20 r^7 R - 36 R^2 s^6 + r^6 (160 R^2 - s^2) + 64 r^5 (10 R^3 - R s^2) + r^4 (1280 R^4 - 564 R^2 s^2 - \right. \\ & \quad 5 s^4) + 4 r^3 (256 R^5 - 424 R^3 s^2 + 5 R s^4) + r^2 (-1600 R^4 s^2 + 328 R^2 s^4 - 3 s^6) + \\ & \quad 24 r (28 R^3 s^4 - R s^6)) \Big) \Big) / (3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2))^2 \end{aligned}$$

$$|X_{192}X_{244}|^2:$$

$$\begin{aligned} & (r^{10} + 16 r^9 R - 56 r R s^8 + s^{10} + 5 r^8 (-96 R^2 + s^2) - 8 r^7 (832 R^3 - 3 R s^2) - \\ & \quad 2 r^6 (13696 R^4 + 936 R^2 s^2 - 5 s^4) - 8 r^5 (4608 R^5 - 2032 R^3 s^2 + 7 R s^4) + \\ & \quad 2 r^4 (16512 R^4 s^2 - 128 R^2 s^4 + 5 s^6) - 8 r^3 (1232 R^3 s^4 + 15 R s^6) + r^2 (1136 R^2 s^6 + 5 s^8)) \Big) / \\ & \quad (r^4 - 10 r^3 R - 10 r R s^2 + s^4 + r^2 (-56 R^2 + 2 s^2))^2 \end{aligned}$$

$$\begin{aligned}
& |X_{192}X_{304}|^2: \\
& - \left((4 (r^{14} + 28 r^{13} R + 28 r R s^{12} - s^{14} + 8 r^3 R s^8 (64 R^2 - 3 s^2) - r^2 s^{10} (228 R^2 + s^2) + \right. \\
& \quad r^{12} (336 R^2 + s^2) + 8 r^{11} (280 R^3 - R s^2) + r^{10} (8960 R^4 - 292 R^2 s^2 - 3 s^4) + \\
& \quad r^4 s^6 (1408 R^4 + 112 R^2 s^2 + 3 s^4) + 12 r^9 (1792 R^5 - 176 R^3 s^2 - R s^4) + \\
& \quad r^8 (28672 R^6 - 6272 R^4 s^2 - 256 R^2 s^4 - 3 s^6) + 32 r^7 R (512 R^6 - 224 R^4 s^2 - 82 R^2 s^4 + s^6) + \\
& \quad r^6 (-1024 R^6 s^2 - 7936 R^4 s^4 + 712 R^2 s^6 + 3 s^8) - \\
& \quad \left. 4 r^5 (1536 R^5 s^4 - 432 R^3 s^6 + 11 R s^8) \right) / \\
& \quad (r^6 + 12 r^5 R + 4 r R s^4 - s^6 + 16 r^3 R (4 R^2 + s^2) + r^4 (48 R^2 + s^2) + r^2 (48 R^2 s^2 - s^4))^2 \\
& |X_{192}X_{306}|^2: \\
& - \left((4 (4 r^{10} + 64 r^9 R + 24 r R s^8 - s^{10} + 4 r^8 (100 R^2 + s^2) + 16 r^7 (76 R^3 - 9 R s^2) + r^6 \right. \\
& \quad (1792 R^4 - 896 R^2 s^2 - s^4) + 8 r^5 (128 R^5 - 216 R^3 s^2 + 23 R s^4) + \\
& \quad r^4 (-1088 R^4 s^2 + 656 R^2 s^4 + s^6) + 96 r^3 (6 R^3 s^4 - R s^6) + r^2 (-160 R^2 s^6 + s^8) \Big) / \\
& \quad (3 r^4 + 18 r^3 R + 2 r R s^2 - s^4 + 2 r^2 (12 R^2 + s^2))^2 \\
& |X_{192}X_{312}|^2: \quad - \frac{4 (r^2 - 4 r R + s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^4 - 4 r^3 R - 4 r R s^2 + s^4 + r^2 (-32 R^2 + 2 s^2))^2} \\
& |X_{192}X_{319}|^2: \quad - \left((4 (r^{10} + 20 r^9 R + 640 r^7 R^3 + 156 r R s^8 - 9 s^{10} + \right. \\
& \quad r^8 (160 R^2 + 3 s^2) + 2 r^6 (640 R^4 - 90 R^2 s^2 - 3 s^4) + 32 r^5 (32 R^5 - 21 R^3 s^2 + 3 R s^4) + \\
& \quad r^4 (-576 R^4 s^2 + 696 R^2 s^4 - 26 s^6) + 48 r^3 (18 R^3 s^4 - 5 R s^6) - r^2 (244 R^2 s^6 + 27 s^8) \Big) / \\
& \quad (r^4 + 8 r^3 R - 8 r R s^2 - 3 s^4 + 2 r^2 (8 R^2 - s^2))^2 \\
& |X_{192}X_{320}|^2: \quad - \left((4 (9 r^{10} + 180 r^9 R + 5760 r^7 R^3 + 28 r R s^8 - s^{10} + 9 r^8 (160 R^2 + 3 s^2) + \right. \\
& \quad 2 r^6 (5760 R^4 - 810 R^2 s^2 + 13 s^4) + 32 r^5 (288 R^5 - 189 R^3 s^2 + 8 R s^4) + \\
& \quad r^4 (-5184 R^4 s^2 + 1016 R^2 s^4 + 6 s^6) + 48 r^3 (34 R^3 s^4 - R s^6) - 3 r^2 (92 R^2 s^6 + s^8) \Big) / \\
& \quad (3 r^4 + 24 r^3 R + 8 r R s^2 - s^4 + 2 r^2 (24 R^2 + s^2))^2 \\
& |X_{192}X_{321}|^2: \quad - \frac{4 (r^2 + s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^4 + 2 r^3 R + 2 r R s^2 + s^4 + r^2 (-8 R^2 + 2 s^2))^2} \\
& |X_{192}X_{345}|^2: \quad - \frac{4 (-3 r^2 - 4 r R + s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(5 r^4 + 28 r^3 R + 4 r R s^2 - s^4 + 4 r^2 (8 R^2 + s^2))^2} \\
& |X_{192}X_{346}|^2: \quad - \frac{4 (r^2 + 4 r R - s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(2 r^4 + 16 r^3 R + 4 r R s^2 - s^4 + r^2 (32 R^2 + s^2))^2} \\
& |X_{192}X_{350}|^2: \\
& - \frac{4 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^6 + 12 r^5 R + 64 r^3 R^3 - 12 r R s^4 + s^6 + 3 r^4 (16 R^2 + s^2) + r^2 (-48 R^2 s^2 + 3 s^4))^2} \\
& |X_{194}X_{200}|^2: \\
& (-3 r^{12} - 56 r^{11} R + 16 R^2 s^{10} - 8 r R s^8 (48 R^2 + s^2) - r^{10} (400 R^2 + 11 s^2) - 8 r^9 (160 R^3 + 7 R s^2) + \\
& \quad 32 r^7 R (64 R^4 + 8 R^2 s^2 + s^4) + r^2 s^6 (2304 R^4 + 240 R^2 s^2 + s^4) - 2 r^8 (640 R^4 - 8 R^2 s^2 + 7 s^4) + \\
& \quad 128 r^5 (32 R^5 s^2 - 11 R^3 s^4) + 2 r^6 (2048 R^6 + 512 R^4 s^2 + 208 R^2 s^4 - 3 s^6) + \\
& \quad r^4 (1536 R^4 s^4 + 224 R^2 s^6 + s^8) - 8 r^3 (512 R^5 s^4 + 160 R^3 s^6 + 5 R s^8) \Big) / \\
& \quad ((r - 2 R)^2 (r^4 + 8 r^3 R - 8 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2)
\end{aligned}$$

$|X_{194}X_{210}|^2:$

$$\begin{aligned} & (3r^{11} + 56r^{10}R + 25Rs^{10} + 5rs^8(-112R^2 + s^2) + r^9(400R^2 + 17s^2) + r^8(1280R^3 + 137Rs^2) + \\ & 2r^7(640R^4 + 160R^2s^2 + 19s^4) - 4r^6(512R^5 + 40R^3s^2 - 9Rs^4) - \\ & 2r^5(2048R^6 + 1664R^4s^2 + 48R^2s^4 - 21s^6) + r^4(-7936R^5s^2 + 3520R^3s^4 - 90Rs^6) + \\ & r^3(-1024R^4s^4 - 64R^2s^6 + 23s^8) + 4r^2(664R^3s^6 - 5Rs^8) \Big) / \\ & \left(9R(r^4 + 8r^3R - 8rRs^2 + s^4 + 2r^2(8R^2 + s^2))\right)^2 \end{aligned}$$

 $|X_{194}X_{213}|^2:$

$$\begin{aligned} & - \left((r^2 + 4rR + s^2)^2 (r^{14} + 28r^{13}R + 36rRs^{12} - s^{14} + 8r^3Rs^8(296R^2 - 13s^2) + r^{12} \right. \\ & (336R^2 - 3s^2) + 8r^{11}(280R^3 - 9Rs^2) + r^{10}(8960R^4 - 612R^2s^2 - 15s^4) + \\ & 12r^9(1792R^5 - 176R^3s^2 - 7Rs^4) + r^8(28672R^6 - 1152R^4s^2 - 656R^2s^4 - 11s^6) + \\ & 16r^7(1024R^7 + 576R^5s^2 - 344R^3s^4 - Rs^6) + r^6(15360R^6s^2 - \\ & 14848R^4s^4 + 1416R^2s^6 + 11s^8) - 4r^5(1792R^5s^4 - 304R^3s^6 + 43Rs^8) + \\ & r^4(-3712R^4s^6 + 672R^2s^8 + 15s^{10}) + r^2(-452R^2s^{10} + 3s^{12}) \Big) / \\ & \left(r^8 + 16r^7R + 256r^4R^4 + 12rRs^6 - s^8 + 8r^3Rs^2(-8R^2 + s^2) + 2r^6(48R^2 + s^2) + \right. \\ & \left. 4r^5(64R^3 + 3Rs^2) - 2r^2(16R^2s^4 + s^6) \right)^2 \end{aligned}$$

 $|X_{194}X_{238}|^2:$

$$\begin{aligned} & (-15r^{14} - 424r^{13}R - 48rRs^{12} + s^{14} - 8r^3Rs^8(608R^2 - 37s^2) + r^2s^{10}(800R^2 - 9s^2) - \\ & r^{12}(5136R^2 + 25s^2) - 8r^{11}(4320R^3 + 23Rs^2) + r^4s^6(256R^4 - 2320R^2s^2 - 11s^4) + \\ & r^{10}(-139520R^4 + 864R^2s^2 + 37s^4) - 128r^9(2640R^5 - 88R^3s^2 - 3Rs^4) + \\ & 16r^7R(-16384R^6 + 384R^4s^2 + 2208R^2s^4 + s^6) + \\ & r^8(-454656R^6 + 30464R^4s^2 + 5024R^2s^4 + 99s^6) + \\ & r^6(-49152R^6s^2 + 92416R^4s^4 - 4096R^2s^6 + 51s^8) + 8r^5(8192R^5s^4 - 896R^3s^6 + 27Rs^8) \Big) / \\ & \left(3r^6 + 36r^5R + 20rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 8r^3(24R^3 - Rs^2) + r^2(-112R^2s^2 + s^4) \right)^2 \end{aligned}$$

 $|X_{194}X_{239}|^2:$

$$\begin{aligned} & - \left((16r^2(r^2 + 4rR + s^2))^2 (r^8 + 20r^7R - 4R^2s^6 + r^6(160R^2 - s^2) + 16r^5(40R^3 - 3Rs^2) + \right. \\ & r^4(1280R^4 - 372R^2s^2 - 5s^4) + 4r^3(256R^5 - 232R^3s^2 + 13Rs^4) - \\ & 3r^2(192R^4s^2 - 56R^2s^4 + s^6) + r(96R^3s^4 - 8Rs^6) \Big) / \\ & \left(3r^6 + 36r^5R + 20rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 8r^3(24R^3 - Rs^2) + r^2(-112R^2s^2 + s^4) \right)^2 \end{aligned}$$

 $|X_{194}X_{244}|^2:$

$$\begin{aligned} & (r^{14} + 24r^{13}R - 48rRs^{12} + s^{14} + 7r^{12}(-48R^2 + s^2) + r^2s^{10}(768R^2 + 7s^2) - \\ & 8r^3Rs^8(464R^2 + 31s^2) - 40r^{11}(256R^3 - Rs^2) - 3r^{10}(29440R^4 + 448R^2s^2 - 7s^4) - \\ & 128r^9R(2832R^4 - 5R^2s^2 + s^4) + r^8(-733184R^6 + 73216R^4s^2 - 224R^2s^4 + 35s^6) - \\ & 16r^7(36864R^7 - 12672R^5s^2 + 664R^3s^4 + 27Rs^6) + \\ & r^6(36864R^6s^2 + 55040R^4s^4 + 3008R^2s^6 + 35s^8) + \\ & 8r^5(12288R^5s^4 - 2128R^3s^6 - 61Rs^8) + r^4(-12288R^4s^6 + 2992R^2s^8 + 21s^{10}) \Big) / \\ & \left(r^6 - 6r^5R - 22rRs^4 + s^6 - 28r^3R(8R^2 + s^2) + r^4(-96R^2 + 3s^2) + r^2(128R^2s^2 + 3s^4) \right)^2 \end{aligned}$$

$|X_{194}X_{304}|^2:$

$$\begin{aligned}
& - \left((4 (r^{18} + 36 r^{17} R + 36 r R s^{16} - s^{18} + 64 r^{15} R (84 R^2 + s^2) + 3 r^{16} (192 R^2 + s^2) + 16 r^3 \right. \\
& \quad R s^{12} (122 R^2 + 3 s^2) - r^2 s^{14} (436 R^2 + 3 s^2) - 8 r^4 R^2 s^{10} (152 R^2 + 29 s^2) + \\
& \quad 4 r^{14} (8064 R^4 + 139 R^2 s^2) + 288 r^{13} (448 R^5 + 9 R^3 s^2) - \\
& \quad 32 r^5 R s^8 (96 R^4 - 21 R^2 s^2 + 2 s^4) + 32 r^7 R s^4 (1280 R^6 - 1760 R^4 s^2 + 90 R^2 s^4 - 3 s^6) + \\
& \quad 8 r^{12} (43\,008 R^6 + 1000 R^4 s^2 - 13 R^2 s^4 - s^6) + \\
& \quad 4 r^6 s^6 (-8960 R^6 + 832 R^4 s^2 + 133 R^2 s^4 + 2 s^6) + \\
& \quad 16 r^{11} (36\,864 R^7 + 1472 R^5 s^2 - 94 R^3 s^4 - R s^6) + \\
& \quad 2 r^{10} (294\,912 R^8 + 35\,328 R^6 s^2 - 3712 R^4 s^4 + 58 R^2 s^6 - 3 s^8) + \\
& \quad 2 r^8 s^2 (57\,344 R^8 + 7168 R^6 s^2 - 11\,840 R^4 s^4 + 264 R^2 s^6 + 3 s^8) + \\
& \quad \left. \left. 8 r^9 (32\,768 R^9 + 17\,408 R^7 s^2 - 1408 R^5 s^4 - 344 R^3 s^6 - R s^8) \right) \right) / \\
& (r^8 + 16 r^7 R + 16 r^3 R s^4 + 16 r R s^6 - s^8 + 32 r^4 R^2 (8 R^2 + s^2) + 16 r^5 R (16 R^2 + s^2) + \\
& \quad 2 r^6 (48 R^2 + s^2) - 2 r^2 (32 R^2 s^4 + s^6))^2)
\end{aligned}$$

 $|X_{194}X_{306}|^2:$

$$\begin{aligned}
& - \left((4 (4 r^{14} + 96 r^{13} R + 32 r R s^{12} - s^{14} + 16 r^3 R s^8 (84 R^2 - s^2) - r^2 s^{10} (336 R^2 + s^2) + \right. \\
& \quad 4 r^{12} (244 R^2 + 3 s^2) + 16 r^{11} (340 R^3 + 7 R s^2) - 32 r^5 R s^4 (240 R^4 - 50 R^2 s^2 + s^4) + \\
& \quad 32 r^9 R (1088 R^4 + 26 R^2 s^2 + s^4) + 2 r^4 s^6 (-288 R^4 + 64 R^2 s^2 + s^4) + \\
& \quad r^{10} (17\,920 R^4 + 352 R^2 s^2 + 11 s^4) + 32 r^7 R (512 R^6 + 272 R^4 s^2 - 200 R^2 s^4 + s^6) + \\
& \quad r^8 (36\,864 R^6 + 3520 R^4 s^2 - 1168 R^2 s^4 + 3 s^6) + \\
& \quad \left. \left. 2 r^6 (3584 R^6 s^2 - 5952 R^4 s^4 + 472 R^2 s^6 + s^8) \right) \right) / \\
& (3 r^6 + 30 r^5 R + 14 r R s^4 - s^6 + r^4 (96 R^2 + 5 s^2) + 4 r^3 (24 R^3 - 5 R s^2) + r^2 (-64 R^2 s^2 + s^4))^2)
\end{aligned}$$

 $|X_{194}X_{312}|^2:$

$$\begin{aligned}
& - \left((4 (r^{14} + 12 r^{13} R + 36 r R s^{12} - s^{14} + 8 r^{11} R (-40 R^2 + s^2) + r^{12} (16 R^2 + 5 s^2) - r^2 \right. \\
& \quad s^{10} (452 R^2 + 5 s^2) + 8 r^3 R s^8 (296 R^2 + 13 s^2) + \\
& \quad r^{10} (-1280 R^4 - 100 R^2 s^2 + 9 s^4) - r^4 s^6 (3712 R^4 + 736 R^2 s^2 + 9 s^4) + \\
& \quad 4 r^9 (256 R^5 - 64 R^3 s^2 - 13 R s^4) + r^8 (12\,288 R^6 - 640 R^4 s^2 - 80 R^2 s^4 + 5 s^6) + \\
& \quad 16 r^7 (1024 R^7 + 128 R^5 s^2 + 144 R^3 s^4 - 3 R s^6) + r^6 \\
& \quad \left. \left. (15\,360 R^6 s^2 - 6144 R^4 s^4 - 248 R^2 s^6 - 5 s^8) + r^5 (-7168 R^5 s^4 + 2560 R^3 s^6 + 68 R s^8) \right) \right) / \\
& (r^6 - 16 r R s^4 + s^6 - 16 r^3 R (8 R^2 + s^2) + r^4 (-48 R^2 + 3 s^2) + r^2 (80 R^2 s^2 + 3 s^4))^2)
\end{aligned}$$

 $|X_{194}X_{319}|^2:$

$$\begin{aligned}
& - \left((4 (r^{14} + 28 r^{13} R + 228 r R s^{12} - 9 s^{14} + 184 r^3 R s^8 (16 R^2 + 3 s^2) + r^{12} (336 R^2 + 5 s^2) - \right. \\
& \quad 5 r^2 s^{10} (308 R^2 + 9 s^2) + 8 r^{11} (280 R^3 + 9 R s^2) + \\
& \quad r^4 s^6 (3968 R^4 - 2848 R^2 s^2 - 89 s^4) + r^{10} (8960 R^4 + 348 R^2 s^2 + s^4) + \\
& \quad 28 r^9 (768 R^5 + 16 R^3 s^2 - 3 R s^4) + r^8 (28\,672 R^6 - 1152 R^4 s^2 - 1104 R^2 s^4 - 35 s^6) + \\
& \quad 16 r^7 (1024 R^7 - 192 R^5 s^2 - 340 R^3 s^4 - 11 R s^6) - \\
& \quad r^6 (1024 R^6 s^2 + 13\,312 R^4 s^4 - 1672 R^2 s^6 + 85 s^8) + \\
& \quad \left. \left. r^5 (-14\,336 R^5 s^4 + 7488 R^3 s^6 + 276 R s^8) \right) \right) / \\
& (r^6 + 12 r^5 R + 28 r R s^4 - 3 s^6 + r^4 (48 R^2 - s^2) + 8 r^3 (8 R^3 - 3 R s^2) - 5 r^2 (16 R^2 s^2 + s^4))^2)
\end{aligned}$$

$$|X_{194}X_{320}|^2:$$

$$\begin{aligned} & - \left(\left(4 \left(9 r^{14} + 252 r^{13} R + 36 r R s^{12} - s^{14} - 5 r^2 s^{10} \left(84 R^2 + s^2 \right) + 9 r^{12} \left(336 R^2 + 5 s^2 \right) + \right. \right. \right. \\ & \quad 8 r^3 R s^8 \left(176 R^2 + 13 s^2 \right) + 72 r^{11} \left(280 R^3 + 9 R s^2 \right) - r^4 s^6 \left(-4992 R^4 + 928 R^2 s^2 + s^4 \right) + \\ & \quad r^{10} \left(80640 R^4 + 3132 R^2 s^2 + 89 s^4 \right) + 4 r^9 \left(48384 R^5 + 1008 R^3 s^2 + 107 R s^4 \right) + \\ & \quad r^8 \left(258048 R^6 - 10368 R^4 s^2 - 1872 R^2 s^4 + 85 s^6 \right) + \\ & \quad 16 r^7 \left(9216 R^7 - 1728 R^5 s^2 - 916 R^3 s^4 - 3 R s^6 \right) + \\ & \quad r^6 \left(-9216 R^6 s^2 - 31744 R^4 s^4 + 1608 R^2 s^6 + 35 s^8 \right) - \\ & \quad \left. \left. \left. 4 r^5 \left(7680 R^5 s^4 - 1744 R^3 s^6 + 3 R s^8 \right) \right) \right) \right) / \\ & \quad \left(3 r^6 + 36 r^5 R + 20 r R s^4 - s^6 + r^4 \left(144 R^2 + 5 s^2 \right) + 8 r^3 \left(24 R^3 - R s^2 \right) + r^2 \left(-112 R^2 s^2 + s^4 \right) \right)^2 \end{aligned}$$

$$|X_{194}X_{321}|^2:$$

$$\begin{aligned} & - \left(\left(4 \left(r^{14} + 20 r^{13} R + 28 r R s^{12} - s^{14} + 40 r^{11} R \left(16 R^2 + s^2 \right) + 5 r^{12} \left(32 R^2 + s^2 \right) - r^2 s^{10} \right. \right. \right. \\ & \quad \left(244 R^2 + 5 s^2 \right) + 8 r^3 R s^8 \left(116 R^2 + 9 s^2 \right) + r^{10} \left(1280 R^4 + 76 R^2 s^2 + 9 s^4 \right) - \\ & \quad r^4 s^6 \left(1600 R^4 + 368 R^2 s^2 + 9 s^4 \right) + 4 r^9 \left(256 R^5 - 40 R^3 s^2 - 3 R s^4 \right) + \\ & \quad r^8 \left(-1088 R^4 s^2 - 208 R^2 s^4 + 5 s^6 \right) - 16 r^7 \left(128 R^5 s^2 - 46 R^3 s^4 + 3 R s^6 \right) + \\ & \quad \left. \left. \left. r^6 \left(1152 R^4 s^4 - 248 R^2 s^6 - 5 s^8 \right) + 4 r^5 \left(256 R^5 s^4 + 104 R^3 s^6 + 7 R s^8 \right) \right) \right) \right) / \\ & \quad \left(r^6 + 6 r^5 R + 3 r^4 s^2 - 10 r R s^4 + s^6 - 4 r^3 R \left(8 R^2 + s^2 \right) + r^2 \left(32 R^2 s^2 + 3 s^4 \right) \right)^2 \end{aligned}$$

$$|X_{194}X_{345}|^2:$$

$$\begin{aligned} & - \left(\left(4 \left(9 r^{14} + 204 r^{13} R + 36 r R s^{12} - s^{14} + 8 r^3 R s^8 \left(296 R^2 - 15 s^2 \right) + r^{12} \left(1936 R^2 + 21 s^2 \right) + \right. \right. \right. \\ & \quad 8 r^{11} \left(1240 R^3 + 17 R s^2 \right) + r^{10} \left(29440 R^4 + 252 R^2 s^2 + s^4 \right) + \\ & \quad 4 r^9 \left(12544 R^5 + 480 R^3 s^2 - 5 R s^4 \right) + r^8 \left(45056 R^6 + 12160 R^4 s^2 - 2864 R^2 s^4 - 27 s^6 \right) + \\ & \quad 16 r^7 \left(1024 R^7 + 1536 R^5 s^2 - 800 R^3 s^4 + 11 R s^6 \right) + \\ & \quad r^6 \left(15360 R^6 s^2 - 17920 R^4 s^4 + 1320 R^2 s^6 - 13 s^8 \right) - 4 r^5 \left(1792 R^5 s^4 + 96 R^3 s^6 + 7 R s^8 \right) + \\ & \quad \left. \left. \left. r^4 \left(-3712 R^4 s^6 + 1024 R^2 s^8 + 7 s^{10} \right) + r^2 \left(-452 R^2 s^{10} + 3 s^{12} \right) \right) \right) \right) / \\ & \quad \left(5 r^6 + 48 r^5 R + 16 r R s^4 - s^6 + 9 r^4 \left(16 R^2 + s^2 \right) + 32 r^3 \left(4 R^3 - R s^2 \right) + r^2 \left(-80 R^2 s^2 + 3 s^4 \right) \right)^2 \end{aligned}$$

$$|X_{194}X_{346}|^2:$$

$$\begin{aligned} & - \left(\left(4 \left(r^{14} + 28 r^{13} R + 36 r R s^{12} - s^{14} + 8 r^3 R s^8 \left(296 R^2 - s^2 \right) + 8 r^{11} R \left(280 R^2 + s^2 \right) + \right. \right. \right. \\ & \quad r^{12} \left(336 R^2 + s^2 \right) - r^2 s^{10} \left(452 R^2 + s^2 \right) + r^{10} \left(8960 R^4 + 28 R^2 s^2 - 3 s^4 \right) + \\ & \quad 4 r^9 \left(5376 R^5 + 112 R^3 s^2 - R s^4 \right) + 256 r^7 \left(64 R^7 + 52 R^5 s^2 - 17 R^3 s^4 \right) + \\ & \quad r^8 \left(28672 R^6 + 3968 R^4 s^2 - 416 R^2 s^4 - 3 s^6 \right) + \\ & \quad r^6 \left(15360 R^6 s^2 - 12032 R^4 s^4 + 744 R^2 s^6 + 3 s^8 \right) - \\ & \quad \left. \left. \left. 4 r^5 \left(1792 R^5 s^4 - 272 R^3 s^6 + 15 R s^8 \right) + r^4 \left(-3712 R^4 s^6 + 144 R^2 s^8 + 3 s^{10} \right) \right) \right) \right) / \\ & \quad \left(2 r^6 + 24 r^5 R - 80 r^2 R^2 s^2 + 16 r R s^4 - s^6 + 3 r^4 \left(32 R^2 + s^2 \right) + 8 r^3 \left(16 R^3 - R s^2 \right) \right)^2 \end{aligned}$$

$$|X_{194}X_{350}|^2:$$

$$\begin{aligned} & - \left((4 (r^{18} + 36 r^{17} R + 44 r R s^{16} - s^{18} + 32 r^3 R s^{12} (137 R^2 + 6 s^2) + r^{16} (576 R^2 + 7 s^2) - \right. \\ & \quad r^2 s^{14} (692 R^2 + 7 s^2) + 48 r^{15} (112 R^3 + 3 R s^2) - 8 r^5 R s^8 (5760 R^4 - 788 R^2 s^2 - 33 s^4) + \\ & \quad 4 r^{14} (8064 R^4 + 251 R^2 s^2 + 5 s^4) - 4 r^4 s^{10} (1328 R^4 + 406 R^2 s^2 + 5 s^4) + \\ & \quad 8 r^{13} (16128 R^5 + 100 R^3 s^2 + 19 R s^4) + 16 r^7 R s^4 (4608 R^6 + 5696 R^4 s^2 + 372 R^2 s^4 + s^6) + \\ & \quad 4 r^{12} (86016 R^6 - 6960 R^4 s^2 - 150 R^2 s^4 + 7 s^6) - \\ & \quad 4 r^6 s^6 (-32000 R^6 + 8768 R^4 s^2 + 219 R^2 s^4 + 7 s^6) + \\ & \quad 32 r^{11} (18432 R^7 - 5536 R^5 s^2 - 251 R^3 s^4 - 3 R s^6) + \\ & \quad 2 r^{10} (294912 R^8 - 251392 R^6 s^2 - 8576 R^4 s^4 - 806 R^2 s^6 + 7 s^8) - \\ & \quad 2 r^8 s^2 (204800 R^8 - 58368 R^6 s^2 - 14784 R^4 s^4 + 264 R^2 s^6 + 7 s^8) + \\ & \quad 16 r^9 (16384 R^9 - 44544 R^7 s^2 + 1728 R^5 s^4 + 36 R^3 s^6 - 15 R s^8) \left. \right) / \\ & (r^8 + 16 r^7 R - 24 r R s^6 + s^8 - 32 r^3 R s^2 (12 R^2 + s^2) + 4 r^6 (24 R^2 + s^2) + \\ & \quad 8 r^5 R (32 R^2 + s^2) + 2 r^4 (128 R^4 - 64 R^2 s^2 + 3 s^4) + 4 r^2 (40 R^2 s^4 + s^6))^2 \end{aligned}$$

$$|X_{200}X_{210}|^2: \frac{-r^4 R + 4 R^3 s^2 + 2 r^3 (-6 R^2 + s^2) + r^2 (-48 R^3 + 2 R s^2) + r (-64 R^4 + 4 R^2 s^2)}{9 (r-2 R)^2 R}$$

$$|X_{200}X_{213}|^2:$$

$$\begin{aligned} & - \left((4 R (r^{10} R + 20 r R^2 s^8 - R s^{10} + r^9 (20 R^2 - s^2) + 8 r^8 (20 R^3 - R s^2) + r^7 (640 R^4 - 20 R^2 s^2 - s^4) + \right. \\ & \quad 2 r^6 (640 R^5 - 2 R^3 s^2 - 3 R s^4) + r^5 (1024 R^6 + 160 R^4 s^2 + s^6) + r^4 \\ & \quad (448 R^5 s^2 - 168 R^3 s^4 - R s^6) + r^3 (-224 R^4 s^4 + 28 R^2 s^6 + s^8) - r^2 (52 R^3 s^6 + 5 R s^8) \left. \right) / \\ & \left((r-2 R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2 \right) \end{aligned}$$

$$|X_{200}X_{238}|^2:$$

$$\frac{4 R (2 r^7 + 17 r^6 R - 32 r R^2 s^4 + R s^6 + 8 r^5 (-3 R^2 + s^2) + r^4 (-496 R^3 + 3 R s^2) - 2 r^3 (512 R^4 - 36 R^2 s^2 + s^4) + r^2 (320 R^3 s^2 - R s^4))}{(r-2 R)^2 (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{200}X_{239}|^2: \frac{(5 r^2 - 16 r R + s^2) (r^3 + 8 r^2 R - 4 R s^2 + r (16 R^2 + s^2))^2}{(r-2 R)^2 (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{200}X_{244}|^2:$$

$$\frac{4 R (8 r^7 - 12 r^6 R + 40 r R^2 s^4 - R s^6 - 2 r^5 (168 R^2 + s^2) - r^2 R s^2 (528 R^2 + s^2) - 8 r^4 (8 R^3 - 7 R s^2) + 2 r^3 (1152 R^4 + 8 R^2 s^2 - s^4))}{(r-2 R)^2 (r^2 - 14 r R + s^2)^2}$$

$$|X_{200}X_{304}|^2:$$

$$\begin{aligned} & \left(r^2 (r^{10} + 24 r^9 R + s^6 (-8 R^2 + s^2)^2 + 24 r^7 R (40 R^2 + s^2) + r^8 (224 R^2 + s^2) + 2 r^6 (640 R^4 + \right. \\ & \quad 64 R^2 s^2 - s^4) - 16 r R s^4 (32 R^4 - 12 R^2 s^2 + s^4) - 8 r^5 (512 R^5 - 24 R^3 s^2 + 9 R s^4) - \\ & \quad 2 r^4 (8192 R^6 + 96 R^4 s^2 + 56 R^2 s^4 + s^6) - 8 r^3 (2048 R^7 + 320 R^5 s^2 - 56 R^3 s^4 - 5 R s^6) + \\ & \quad r^2 (-7168 R^6 s^2 + 1664 R^4 s^4 - 96 R^2 s^6 + s^8) \left. \right) / \\ & \left((r-2 R)^2 (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2 \right) \end{aligned}$$

$$|X_{200}X_{306}|^2: \frac{r^2 (r^2 + 6 r R + 8 R^2 - s^2)^2 (5 r^2 - 16 r R + s^2)}{(r-2 R)^2 (-3 r^2 - 6 r R + s^2)^2}$$

$$|X_{200}X_{312}|^2: \frac{r^2 (r^6 - 8 r^5 R - 16 r R (-8 R^2 + s^2)^2 + 8 r^3 R (8 R^2 + s^2) + r^4 (-64 R^2 + 3 s^2) + (-8 R^2 s + s^3)^2 + r^2 (256 R^4 - 64 R^2 s^2 + 3 s^4))}{(r-2 R)^2 (r^2 - 8 r R + s^2)^2}$$

$$|X_{200}X_{319}|^2:$$

$$\frac{r^2 (r^6 + 16 r^5 R + r^4 (80 R^2 - 21 s^2) + 8 r^3 (8 R^3 - 11 R s^2) + (8 R^2 s - 3 s^3)^2 + r^2 (-512 R^4 + 80 R^2 s^2 + 51 s^4) - 8 r (128 R^5 - 104 R^3 s^2 + 21 R s^4))}{(r-2 R)^2 (r^2 + 4 r R - 3 s^2)^2}$$

$$|X_{200}X_{320}|^2:$$

$$\frac{r^2 (9 r^6 + 144 r^5 R + 45 r^4 (16 R^2 - s^2) + 24 r^3 (24 R^3 - R s^2) + (-24 R^2 s + s^3)^2 + r^2 (-4608 R^4 - 48 R^2 s^2 + 11 s^4) - 8 r (1152 R^5 - 168 R^3 s^2 + 5 R s^4))}{(r-2 R)^2 (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{200}X_{321}|^2: \frac{r^2 (r^6 + 4 r^5 R - 12 r R s^4 + s^6 + 3 r^4 (-4 R^2 + s^2) - 8 r^3 (4 R^3 - 3 R s^2) + r^2 (64 R^4 - 60 R^2 s^2 + 3 s^4))}{(r-2 R)^2 (r^2 - 2 r R + s^2)^2}$$

$$|X_{200}X_{345}|^2: \frac{r^2 (9 r^6 + 56 r^5 R + 40 r^3 R (-24 R^2 + s^2) - r^4 (64 R^2 + 9 s^2) + (-8 R^2 s + s^3)^2 - r^2 (1792 R^4 - 288 R^2 s^2 + s^4) - 32 r R (32 R^4 - 12 R^2 s^2 + s^4))}{(r-2 R)^2 (-5 r^2 - 8 r R + s^2)^2}$$

$$|X_{200}X_{346}|^2: - \frac{r^2 (4 r^4 (4 R^2 + s^2) + 16 r^3 (12 R^3 - R s^2) - (-8 R^2 s + s^3)^2 + r^2 (768 R^4 - 96 R^2 s^2 - s^4) + 8 r (128 R^5 - 40 R^3 s^2 + 3 R s^4))}{(r-2 R)^2 (-2 r^2 - 8 r R + s^2)^2}$$

$$|X_{200}X_{350}|^2: \frac{\left(r^2 \left(r^{10} + 24 r^9 R + s^6 (-24 R^2 + s^2)^2 + r^8 (224 R^2 + 5 s^2) + 8 r^7 (120 R^3 + 7 R s^2) - 16 r R s^4 \right. \right. \\ \left. \left. (672 R^4 - 52 R^2 s^2 + s^4) + 2 r^6 (640 R^4 - 16 R^2 s^2 + 5 s^4) - 8 r^5 (512 R^5 + 216 R^3 s^2 - 3 R s^4) - \right. \right. \\ \left. \left. 2 r^4 (8192 R^6 + 1376 R^4 s^2 + 72 R^2 s^4 - 5 s^6) - 8 r^3 (2048 R^7 - 1472 R^5 s^2 - 56 R^3 s^4 + 3 R s^6) + \right. \right. \\ \left. \left. r^2 (25600 R^6 s^2 + 384 R^4 s^4 - 192 R^2 s^6 + 5 s^8) \right) \right) / \\ \left((r-2 R)^2 (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right)$$

$$|X_{210}X_{213}|^2: \frac{\left(-r^{10} R + 4 R s^{10} + 2 r s^8 (-36 R^2 + s^2) + r^9 (-20 R^2 + 2 s^2) - \right. \\ \left. 8 r^8 (20 R^3 - 3 R s^2) + r^7 (-640 R^4 + 116 R^2 s^2) + r^6 (-1280 R^5 + 260 R^3 s^2 + 6 R s^4) - \right. \\ \left. 4 r^5 (256 R^6 - 24 R^4 s^2 - 19 R^2 s^4 + s^6) - 4 r^4 (112 R^5 s^2 - 118 R^3 s^4 + 7 R s^6) + \right. \\ \left. 20 r^3 (24 R^4 s^4 - 5 R^2 s^6) + 5 r^2 (20 R^3 s^6 - R s^8) \right) / \left(9 R (r^4 + 8 r^3 R + 16 r^2 R^2 + 4 r R s^2 - s^4)^2 \right)$$

$$|X_{210}X_{238}|^2: \frac{-27 r^6 R + 4 R s^6 + 2 r s^4 (-56 R^2 + s^2) + 18 r^5 (-20 R^2 + s^2) - 6 r^4 (264 R^3 - 17 R s^2) - 12 r^3 (192 R^4 - 38 R^2 s^2 + s^4) + r^2 (912 R^3 s^2 - 43 R s^4)}{9 R (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{210}X_{239}|^2: \frac{1}{9 R (-3 r^2 - 12 r R + s^2)^2} \\ \left(-9 r^7 - 144 r^6 R + 25 R s^6 + r^5 (-864 R^2 + 3 s^2) - 9 r^4 (256 R^3 - 17 R s^2) - \right. \\ \left. 3 r^3 (768 R^4 - 360 R^2 s^2 + 5 s^4) + r^2 (2064 R^3 s^2 - 46 R s^4) + r (-520 R^2 s^4 + 5 s^6) \right)$$

$$|X_{210}X_{244}|^2: \frac{23 r^6 R + 4 R s^6 + 2 r s^4 (-76 R^2 + s^2) + r^5 (-300 R^2 + 2 s^2) - 6 r^4 (584 R^3 + 9 R s^2) + r^3 (-7744 R^4 + 900 R^2 s^2 + 4 s^4) + r^2 (1892 R^3 s^2 - 73 R s^4)}{9 R (r^2 - 14 r R + s^2)^2}$$

$$|X_{210}X_{304}|^2: \frac{\left(-3 r^{11} - 76 r^{10} R + R s^{10} + 12 r^2 R s^6 (-4 R^2 + s^2) - r s^8 (8 R^2 + s^2) - r^9 (800 R^2 + s^2) + \right. \\ \left. r^8 (-4480 R^3 + 9 R s^2) + r^7 (-14080 R^4 + 264 R^2 s^2 + 6 s^4) - 16 r^6 (1472 R^5 - 77 R^3 s^2 - 4 R s^4) + \right. \\ \left. 2 r^5 (-8192 R^6 + 384 R^4 s^2 + 52 R^2 s^4 + s^6) - 2 r^4 (1536 R^5 s^2 - 48 R^3 s^4 + 5 R s^6) + \right. \\ \left. r^3 (-1024 R^4 s^4 + 184 R^2 s^6 - 3 s^8) \right) / \left(9 R (r^4 + 8 r^3 R + 16 r^2 R^2 + 8 r R s^2 - s^4)^2 \right)$$

$$|X_{210}X_{306}|^2: \frac{-9 r^7 - 108 R^6 R + R s^6 + r^5 (-468 R^2 + 21 s^2) + r^4 (-864 R^3 + 93 R s^2) - 3 r^3 (192 R^4 - 8 R^2 s^2 + s^4) - 26 r^2 (6 R^3 s^2 - R s^4) - r (4 R^2 s^4 + s^6)}{9 R (-3 r^2 - 6 r R + s^2)^2}$$

$$|X_{210}X_{312}|^2: - \frac{(r^2 + 4 r R + s^2)^2 (3 r^3 - 20 r^2 R - R s^2 + r (16 R^2 + s^2))}{9 R (r^2 - 8 r R + s^2)^2}$$

$$|X_{210}X_{319}|^2: \frac{-3 r^7 - 52 r^6 R + 9 R s^6 + r^5 (-336 R^2 + 17 s^2) + r^4 (-960 R^3 + 89 R s^2) + r^3 (-1024 R^4 + 16 R^2 s^2 - 21 s^4) - 22 r^2 (32 R^3 s^2 - 9 R s^4) - 3 r (32 R^2 s^4 + 3 s^6)}{9 R (r^2 + 4 r R - 3 s^2)^2}$$

$$|X_{210}X_{320}|^2: \frac{-27 r^7 - 468 R^6 R + R s^6 + 9 r^5 (-336 R^2 + s^2) + r^4 (-8640 R^3 + 33 R s^2) + r^3 (-9216 R^4 + 912 R^2 s^2 + 3 s^4) + r^2 (-192 R^3 s^2 + 38 R s^4) + r (32 R^2 s^4 - s^6)}{9 R (-3 r^2 - 12 r R + s^2)^2}$$

$$|X_{210}X_{321}|^2: \frac{-3 r^7 - 28 R^6 R + R s^6 - 7 r^5 (12 R^2 + s^2) - 3 r^4 (32 R^3 + 5 R s^2) + r^3 (-64 R^4 + 96 R^2 s^2 - 5 s^4) + 2 r^2 (34 R^3 s^2 + 7 R s^4) - r (20 R^2 s^4 + s^6)}{9 R (r^2 - 2 r R + s^2)^2}$$

$$|X_{210}X_{345}|^2:$$

$$\frac{-15 r^7 - 148 r^6 R + R s^6 + r^5 (-480 R^2 + 53 s^2) + r^4 (-576 R^3 + 105 R s^2) - r^3 (256 R^4 + 24 R^2 s^2 + 5 s^4) + r^2 (-112 R^3 s^2 + 26 R s^4) - r (8 R^2 s^4 + s^6)}{9 R (-5 r^2 - 8 r R + s^2)^2}$$

$$|X_{210}X_{346}|^2:$$

$$\frac{-4 r^6 R + R s^6 + r^5 (-48 R^2 + 14 s^2) - 48 r^4 (4 R^3 - R s^2) + r^3 (-256 R^4 + 48 R^2 s^2 - 5 s^4) - 4 r^2 (28 R^3 s^2 - 5 R s^4) - r (8 R^2 s^4 + s^6)}{9 R (-2 r^2 - 8 r R + s^2)^2}$$

$$|X_{210}X_{350}|^2:$$

$$\begin{aligned} & - \left((3 r^{11} + 76 r^{10} R - R s^{10} - 8 r^2 R s^6 (-38 R^2 + s^2) + r s^8 (-24 R^2 + s^2) + r^9 (800 R^2 + 13 s^2) + \right. \\ & \quad r^8 (4480 R^3 + 127 R s^2) + 2 r^7 (7040 R^4 - 84 R^2 s^2 + 11 s^4) + \\ & \quad 4 r^6 (5888 R^5 - 1364 R^3 s^2 + 5 R s^4) + 2 r^5 (8192 R^6 - 9856 R^4 s^2 - 132 R^2 s^4 + 9 s^6) - \\ & \quad 2 r^4 (10752 R^5 s^2 - 848 R^3 s^4 + 19 R s^6) + r^3 (6656 R^4 s^4 - 472 R^2 s^6 + 7 s^8) \Big) / \\ & \quad \left(9 R (r^4 + 8 r^3 R - 16 r R s^2 + s^4 + 2 r^2 (8 R^2 + s^2))^2 \right) \end{aligned}$$

$$|X_{213}X_{238}|^2:$$

$$- \frac{4 r^2 R (r^3 + 8 r^2 R + 16 r R^2 - r s^2 - R s^2) (r^4 + 8 r^3 R + s^4 + 2 r^2 (8 R^2 + s^2))^2}{(3 r^6 + 36 r^5 R - 16 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 4 r^3 R (48 R^2 + s^2) + r^2 (32 R^2 s^2 - 3 s^4))^2}$$

$$|X_{213}X_{239}|^2:$$

$$\begin{aligned} & - \left((r^2 + 4 r R + s^2)^2 (r^{10} + 20 r^9 R + 928 r^3 R^3 s^4 + 28 r R s^8 - s^{10} + r^8 (160 R^2 + 3 s^2) + \right. \\ & \quad 16 r^7 (40 R^3 - R s^2) + 2 r^6 (640 R^4 - 186 R^2 s^2 + s^4) + 32 r^5 (32 R^5 - 45 R^3 s^2 + 2 R s^4) - \\ & \quad 2 r^4 (800 R^4 s^2 - 156 R^2 s^4 + s^6) - r^2 (244 R^2 s^6 + 3 s^8) \Big) / \\ & \quad \left(3 r^6 + 36 r^5 R - 16 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 4 r^3 R (48 R^2 + s^2) + r^2 (32 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

$$|X_{213}X_{244}|^2:$$

$$\begin{aligned} & - \left((4 r^4 R (4 r^9 + 105 r^8 R + 4 r^7 (285 R^2 - 2 s^2) + 9 R s^6 (-4 R^2 + s^2) + 4 r^6 (1640 R^3 - 3 R s^2) + \right. \\ & \quad 4 r^5 (5280 R^4 + 119 R^2 s^2 - 4 s^4) + r^4 (36096 R^5 + 2716 R^3 s^2 - 202 R s^4) + \\ & \quad 4 r^3 (6400 R^6 + 1512 R^4 s^2 - 161 R^2 s^4 + 2 s^6) + \\ & \quad 4 r^2 (1520 R^5 s^2 - 410 R^3 s^4 - 19 R s^6) + 12 r (8 R^4 s^4 - 9 R^2 s^6 + s^8) \Big) / \\ & \quad \left(-r^6 + 6 r^5 R - 18 r R s^4 + s^6 + r^4 (96 R^2 - s^2) + 4 r^3 (56 R^3 - 3 R s^2) + r^2 (40 R^2 s^2 + s^4) \right)^2 \end{aligned}$$

$$|X_{213}X_{304}|^2:$$

$$\begin{aligned} & - \left((r^{18} + 36 r^{17} R + 28 r R s^{16} - s^{18} + 16 r^3 R s^{12} (18 R^2 + s^2) + 64 r^{15} R (84 R^2 + s^2) + \right. \\ & \quad 3 r^{16} (192 R^2 + s^2) - r^2 s^{14} (212 R^2 + 3 s^2) + 8 r^4 R^2 s^{10} (40 R^2 + 19 s^2) + \\ & \quad 4 r^{14} (8064 R^4 + 139 R^2 s^2) + 72 r^{13} R (1792 R^4 + 36 R^2 s^2 + s^4) + \\ & \quad 8 r^5 R s^8 (128 R^4 - 92 R^2 s^2 + 11 s^4) + 8 r^{12} (43008 R^6 + 1000 R^4 s^2 + 147 R^2 s^4 - s^6) + 32 r^7 R \\ & \quad s^4 (1280 R^6 + 1120 R^4 s^2 - 186 R^2 s^4 + s^6) + 4 r^6 s^6 (7424 R^6 - 1472 R^4 s^2 - 43 R^2 s^4 + 2 s^6) + \\ & \quad 16 r^{11} (36864 R^7 + 1472 R^5 s^2 + 466 R^3 s^4 - 7 R s^6) + \\ & \quad 2 r^{10} (294912 R^8 + 35328 R^6 s^2 + 11648 R^4 s^4 - 86 R^2 s^6 - 3 s^8) + \\ & \quad 2 r^8 s^2 (57344 R^8 + 23552 R^6 s^2 + 8896 R^4 s^4 - 952 R^2 s^6 + 3 s^8) + \\ & \quad 32 r^9 (8192 R^9 + 4352 R^7 s^2 + 1248 R^5 s^4 + 102 R^3 s^6 - 7 R s^8) \Big) / \\ & \quad \left(r^8 + 16 r^7 R + 96 r^6 R^2 - 12 r R s^6 + s^8 + 4 r^5 (64 R^3 + 3 R s^2) + \right. \\ & \quad \left. r^4 (256 R^4 + 96 R^2 s^2 - 2 s^4) + 16 r^3 (12 R^3 s^2 - R s^4) \right)^2 \end{aligned}$$

$|X_{213}X_{306}|^2$:

$$\begin{aligned} & - \left((r^{14} + 24 r^{13} R + 24 r R s^{12} - s^{14} - 8 r^3 R s^8 (24 R^2 - 7 s^2) - 5 r^2 s^{10} (24 R^2 + s^2) + r^{12} \right. \\ & \quad (244 R^2 + 13 s^2) + 40 r^{11} (34 R^3 + 5 R s^2) + 7 r^{10} (640 R^4 + 184 R^2 s^2 - s^4) + \\ & \quad r^4 s^6 (752 R^4 - 284 R^2 s^2 + 15 s^4) + 8 r^9 (1088 R^5 + 570 R^3 s^2 - R s^4) + r^8 \\ & \quad (9216 R^6 + 9584 R^4 s^2 + 328 R^2 s^4 - 27 s^6) + 16 r^7 (256 R^7 + 712 R^5 s^2 + 131 R^3 s^4 - 16 R s^6) + \\ & \quad r^6 (5888 R^6 s^2 + 4832 R^4 s^4 - 624 R^2 s^6 + 11 s^8) + 8 r^5 (496 R^5 s^4 - 34 R^3 s^6 - 5 R s^8) \Big) / \\ & \quad \left(3 r^6 + 30 r^5 R - 10 r R s^4 + s^6 + r^4 (96 R^2 - s^2) + 4 r^3 R (24 R^2 + s^2) + r^2 (8 R^2 s^2 - 3 s^4) \right)^2 \end{aligned}$$

$|X_{213}X_{312}|^2$:

$$\begin{aligned} & (-r^{14} - 20 r^{13} R - 28 r R s^{12} + s^{14} - 5 r^{12} (32 R^2 + s^2) - 8 r^{11} R (80 R^2 + s^2) + r^2 s^{10} (212 R^2 + 5 s^2) - \\ & \quad 8 r^3 R s^8 (28 R^2 + 9 s^2) + r^{10} (-1280 R^4 + 308 R^2 s^2 - 9 s^4) - \\ & \quad 4 r^9 (256 R^5 - 424 R^3 s^2 + 5 R s^4) + r^8 (3136 R^4 s^2 + 496 R^2 s^4 - 5 s^6) + \\ & \quad 16 r^7 (128 R^5 s^2 + 86 R^3 s^4 - 7 R s^6) + r^6 (640 R^4 s^4 + 152 R^2 s^6 + 5 s^8) - \\ & \quad 4 r^5 (256 R^5 s^4 + 168 R^3 s^6 + 31 R s^8) + r^4 (-1472 R^4 s^6 + 336 R^2 s^8 + 9 s^{10}) \Big) / \\ & \quad (r^6 + 12 r R s^4 - s^6 + r^4 (-48 R^2 + s^2) - 4 r^3 (32 R^3 - 3 R s^2) - r^2 (16 R^2 s^2 + s^4))^2 \end{aligned}$$

$|X_{213}X_{319}|^2$:

$$\begin{aligned} & - \left((r^{14} + 28 r^{13} R + 180 r R s^{12} - 9 s^{14} + r^{12} (336 R^2 + 13 s^2) - 3 r^2 s^{10} (140 R^2 + 23 s^2) + \right. \\ & \quad 8 r^{11} (280 R^3 + 33 R s^2) + r^{10} (8960 R^4 + 2268 R^2 s^2 - 55 s^4) + \\ & \quad r^4 s^6 (1664 R^4 - 1152 R^2 s^2 + 15 s^4) + 4 r^9 (5376 R^5 + 2672 R^3 s^2 - 169 R s^4) + \\ & \quad r^8 (28672 R^6 + 29568 R^4 s^2 - 2672 R^2 s^4 - 19 s^6) + \\ & \quad 16 r^7 (1024 R^7 + 2880 R^5 s^2 - 108 R^3 s^4 - 45 R s^6) + \\ & \quad r^6 (31744 R^6 s^2 + 11776 R^4 s^4 - 4312 R^2 s^6 + 123 s^8) + \\ & \quad 20 r^5 (1024 R^5 s^4 - 336 R^3 s^6 + 33 R s^8) + r^3 (-2688 R^3 s^8 + 648 R s^{10}) \Big) / \\ & \quad (r^6 + 12 r^5 R - 16 r R s^4 + 3 s^6 + r^4 (48 R^2 - 3 s^2) + 4 r^3 (16 R^3 - 5 R s^2) - r^2 (32 R^2 s^2 + s^4))^2 \end{aligned}$$

$|X_{213}X_{320}|^2$:

$$\begin{aligned} & (-9 r^{14} - 252 r^{13} R - 20 r R s^{12} + s^{14} + 8 r^3 R s^8 (112 R^2 - 25 s^2) + r^2 s^{10} (4 R^2 + 13 s^2) - \\ & \quad 3 r^{12} (1008 R^2 + 23 s^2) - 72 r^{11} (280 R^3 + 17 R s^2) + r^4 s^6 (2432 R^4 + 576 R^2 s^2 - 55 s^4) - \\ & \quad 3 r^{10} (26880 R^4 + 2964 R^2 s^2 - 5 s^4) - 4 r^9 (48384 R^5 + 8688 R^3 s^2 + 31 R s^4) - \\ & \quad r^8 (258048 R^6 + 81792 R^4 s^2 + 1744 R^2 s^4 - 123 s^6) - \\ & \quad 16 r^7 (9216 R^7 + 7488 R^5 s^2 + 324 R^3 s^4 - 77 R s^6) - \\ & \quad r^6 (89088 R^6 s^2 + 8704 R^4 s^4 - 3672 R^2 s^6 + 19 s^8) + r^5 (-16384 R^5 s^4 + 5184 R^3 s^6 + 204 R s^8) \Big) / \\ & \quad (3 r^6 + 36 r^5 R - 16 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 4 r^3 R (48 R^2 + s^2) + r^2 (32 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

$|X_{213}X_{321}|^2$:

$$\begin{aligned} & - \left(\left((r^2 + 2 r R + s^2)^2 (r^{10} + 20 r^9 R + 928 r^3 R^3 s^4 + 28 r R s^8 - s^{10} + r^8 (160 R^2 + 3 s^2) + \right. \right. \\ & \quad 16 r^7 (40 R^3 - R s^2) + 2 r^6 (640 R^4 - 186 R^2 s^2 + s^4) + 32 r^5 (32 R^5 - 45 R^3 s^2 + 2 R s^4) - \\ & \quad 2 r^4 (800 R^4 s^2 - 156 R^2 s^4 + s^6) - r^2 (244 R^2 s^6 + 3 s^8) \Big) \Big) / \\ & \quad (r^6 + 6 r^5 R + r^4 s^2 + 6 r R s^4 - s^6 - 4 r^3 (8 R^3 - 3 R s^2) + r^2 (8 R^2 s^2 - s^4))^2 \end{aligned}$$

$$\begin{aligned}
|X_{213}X_{345}|^2: & \quad (-r^{14} - 20 r^{13} R - 28 r R s^{12} + s^{14} + 8 r^3 R s^8 (-28 R^2 + s^2) + r^2 s^{10} (212 R^2 + s^2) - \\
& \quad r^{12} (160 R^2 + 17 s^2) - 8 r^{11} (80 R^3 + 27 R s^2) + r^{10} (-1280 R^4 - 1100 R^2 s^2 + 3 s^4) - \\
& \quad 4 r^9 (256 R^5 + 728 R^3 s^2 + 21 R s^4) + r^8 (-4032 R^4 s^2 - 736 R^2 s^4 + 35 s^6) - \\
& \quad 16 r^7 (128 R^5 s^2 + 170 R^3 s^4 - 13 R s^6) - r^6 (3200 R^4 s^4 + 136 R^2 s^6 + 3 s^8) - \\
& \quad 4 r^5 (256 R^5 s^4 + 296 R^3 s^6 - 33 R s^8) + r^4 (-1472 R^4 s^6 + 128 R^2 s^8 - 19 s^{10})) / \\
& \quad (5 r^6 + 48 r^5 R - 12 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 4 r^3 (32 R^3 + 3 R s^2) + r^2 (16 R^2 s^2 - 5 s^4))^2 \\
|X_{213}X_{346}|^2: & \quad (s^4 (7 r^{10} + 60 r^9 R - 28 r R s^8 + s^{10} - 32 r^3 R s^4 (7 R^2 + s^2) + \\
& \quad r^8 (96 R^2 + 5 s^2) + r^7 (-384 R^3 + 80 R s^2) - 2 r^6 (640 R^4 - 26 R^2 s^2 + 5 s^4) - \\
& \quad 16 r^5 (64 R^5 + 58 R^3 s^2 - R s^4) - 2 r^4 (736 R^4 s^2 - 116 R^2 s^4 + 3 s^6) + r^2 (212 R^2 s^6 + 3 s^8)) / \\
& \quad (2 r^6 + 24 r^5 R + 128 r^3 R^3 - 12 r R s^4 + s^6 + r^4 (96 R^2 - s^2) + 2 r^2 (8 R^2 s^2 - s^4))^2 \\
|X_{213}X_{350}|^2: & \quad (-r^{18} - 36 r^{17} R - 28 r R s^{16} + s^{18} + 16 r^3 R s^{12} (26 R^2 - 9 s^2) + r^2 s^{14} (180 R^2 + 7 s^2) - \\
& \quad r^{16} (576 R^2 + 7 s^2) - 32 r^{15} (168 R^3 + 5 R s^2) + 4 r^4 s^{10} (-592 R^4 + 214 R^2 s^2 + 5 s^4) - \\
& \quad 4 r^{14} (8064 R^4 + 363 R^2 s^2 + 5 s^4) - 8 r^5 R s^8 (2432 R^4 - 28 R^2 s^2 + 35 s^4) - \\
& \quad 8 r^{13} (16128 R^5 + 772 R^3 s^2 + 33 R s^4) + 64 r^7 R s^4 (1152 R^6 - 48 R^4 s^2 - 41 R^2 s^4 - 4 s^6) - 4 r^{12} \\
& \quad (86016 R^6 + 2000 R^4 s^2 + 170 R^2 s^4 + 7 s^6) + 4 r^6 s^6 (-1280 R^6 - 3264 R^4 s^2 + 171 R^2 s^4 + 7 s^6) - \\
& \quad 16 r^{11} (36864 R^7 - 2112 R^5 s^2 - 378 R^3 s^4 + 13 R s^6) + \\
& \quad r^{10} (-589824 R^8 + 158720 R^6 s^2 + 46848 R^4 s^4 + 204 R^2 s^6 - 14 s^8) + \\
& \quad 2 r^8 s^2 (73728 R^8 + 80896 R^6 s^2 + 3904 R^4 s^4 + 8 R^2 s^6 + 7 s^8) - \\
& \quad 32 r^9 (8192 R^9 - 7936 R^7 s^2 - 4064 R^5 s^4 - 138 R^3 s^6 + 5 R s^8)) / \\
& \quad (r^8 + 16 r^7 R + 20 r R s^6 - s^8 + 8 r^3 R s^2 (-24 R^2 + s^2) + 2 r^6 (48 R^2 + s^2) + \\
& \quad 4 r^5 R (64 R^2 + s^2) + 64 r^4 (4 R^4 - R^2 s^2) - 2 r^2 (32 R^2 s^4 + s^6))^2 \\
|X_{238}X_{239}|^2: & \quad \frac{r^6 + 8 r^5 R + 24 r^3 R s^2 + 3 r^2 s^4 - 16 r R s^4 + s^6 + r^4 (16 R^2 + 3 s^2)}{(-3 r^2 - 12 r R + s^2)^2} \\
|X_{238}X_{244}|^2: & \quad - \left((4 r^2 R (52 r^7 + 607 r^6 R - R s^6 + 12 r^5 (218 R^2 - 5 s^2) + r^4 (5104 R^3 - 339 R s^2) + \right. \\
& \quad \left. 4 r^3 (1024 R^4 - 390 R^2 s^2 + 3 s^4) + r^2 (-768 R^3 s^2 + 141 R s^4) + r (48 R^2 s^4 - 4 s^6)) / \right. \\
& \quad \left. (-3 r^4 + 30 r^3 R - 26 r R s^2 + s^4 - 2 r^2 (-84 R^2 + s^2))^2 \right) \\
|X_{238}X_{304}|^2: & \quad (-3 r^{14} - 88 r^{13} R - 40 r R s^{12} + s^{14} - r^2 s^{10} (-560 R^2 + s^2) - r^{12} (1104 R^2 + 5 s^2) - \\
& \quad 96 r^{11} (80 R^3 - R s^2) + r^4 s^6 (9984 R^4 - 1872 R^2 s^2 - 7 s^4) + 5 r^{10} (-6400 R^4 + 496 R^2 s^2 + s^4) - \\
& \quad 8 r^9 (9984 R^5 - 2240 R^3 s^2 + 79 R s^4) + r^8 (-110592 R^6 + 57600 R^4 s^2 - 7520 R^2 s^4 + 11 s^6) - \\
& \quad 64 r^7 (1024 R^7 - 1280 R^5 s^2 + 476 R^3 s^4 - 13 R s^6) + \\
& \quad r^6 (36864 R^6 s^2 - 50944 R^4 s^4 + 5920 R^2 s^6 - s^8) - \\
& \quad 8 r^5 (3840 R^5 s^4 - 1792 R^3 s^6 + 33 R s^8) + r^3 (-3328 R^3 s^8 + 96 R s^{10})) / \\
& \quad (3 r^6 + 36 r^5 R - 20 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 16 r^3 R (12 R^2 + s^2) + r^2 (80 R^2 s^2 - 3 s^4))^2 \\
|X_{238}X_{306}|^2: & \quad (9 r^{10} + 108 r^9 R - 1600 r^3 R^3 s^4 - 36 r R s^8 + s^{10} + r^8 (468 R^2 - 87 s^2) + 96 r^7 (9 R^3 - 7 R s^2) + \\
& \quad 2 r^6 (288 R^4 - 906 R^2 s^2 + 59 s^4) - 8 r^5 (204 R^3 s^2 - 67 R s^4) + 6 r^4 (10 R^2 s^4 - 7 s^6) + \\
& \quad r^2 (420 R^2 s^6 + s^8)) / (9 r^4 + 54 r^3 R - 18 r R s^2 + s^4 + r^2 (72 R^2 - 6 s^2))^2
\end{aligned}$$

$$|X_{238}X_{312}|^2: \quad (-3r^{10} - 88r^9R - 40rRs^8 + s^{10} + 16r^3Rs^4(-200R^2 + s^2) - \\ r^8(688R^2 + 11s^2) + r^7(-2304R^3 + 304Rs^2) - 64r^5R(64R^4 - 58R^2s^2 + s^4) - \\ 2r^6(2048R^4 - 744R^2s^2 + 7s^4) + r^4(6400R^4s^2 - 592R^2s^4 - 6s^6) + r^2(560R^2s^6 + s^8)) / \\ (-3r^4 + 12r^3R - 20rRs^2 + s^4 + r^2(96R^2 - 2s^2))^2$$

$$|X_{238}X_{319}|^2: \\ - \left((3r^{10} + 64r^9R + 288rRs^8 - 9s^{10} + r^8(544R^2 + 131s^2) + 32r^7(72R^3 + 49Rs^2) + \\ r^6(4864R^4 + 7008R^2s^2 - 530s^4) + 32r^5(128R^5 + 448R^3s^2 - 107Rs^4) + \\ 2r^4(6016R^4s^2 - 1744R^2s^4 + 171s^6) + 96r^3(72R^3s^4 + 5Rs^6) - 3r^2(928R^2s^6 + 11s^8)) / \right. \\ \left. (3r^4 + 24r^3R - 40rRs^2 + 3s^4 + 2r^2(24R^2 - 5s^2))^2 \right)$$

$$|X_{238}X_{320}|^2: \quad \frac{-3r^6 - 40r^5R - 8rRs^4 + s^6 - r^4(176R^2 + 53s^2) - 16r^3(16R^3 + 3Rs^2) + r^2(-112R^2s^2 + 15s^4)}{(-3r^2 - 12rR + s^2)^2}$$

$$|X_{238}X_{321}|^2: \\ - \left((3r^{10} + 76r^9R + 36rRs^8 - s^{10} + r^8(652R^2 + 11s^2) + 216r^7(12R^3 - Rs^2) + 6r^4 \\ s^2(-896R^4 + 150R^2s^2 + s^4) + 2r^6(2528R^4 - 918R^2s^2 + 7s^4) + \\ 16r^5(256R^5 - 310R^3s^2 + 9Rs^4) + 8r^3(304R^3s^4 - 5Rs^6) - r^2(452R^2s^6 + s^8)) / \right. \\ \left. (3r^4 + 6r^3R + 14rRs^2 - s^4 + r^2(-24R^2 + 2s^2))^2 \right)$$

$$|X_{238}X_{345}|^2: \quad (21r^{10} + 200r^9R - 40rRs^8 + s^{10} + r^8(464R^2 - 103s^2) - \\ 256r^7(3R^3 + 2Rs^2) - 2r^6(2048R^4 + 24R^2s^2 - 55s^4) - 32r^5(128R^5 - 148R^3s^2 - 7Rs^4) + \\ 2r^4(3200R^4s^2 - 712R^2s^4 - 13s^6) - 128r^3(25R^3s^4 - Rs^6) + r^2(560R^2s^6 - 3s^8)) / \\ (15r^4 + 84r^3R - 20rRs^2 + s^4 + r^2(96R^2 - 8s^2))^2$$

$$|X_{238}X_{346}|^2: \quad (-16r^9R - 40rRs^8 + s^{10} - 32r^7R(48R^2 + s^2) - 4r^8(64R^2 + 3s^2) + \\ r^6(-4096R^4 + 720R^2s^2 + 37s^4) + r^5(-4096R^5 + 4224R^3s^2 + 96Rs^4) + \\ r^4(6400R^4s^2 - 1008R^2s^4 - 17s^6) - 8r^3(400R^3s^4 - 9Rs^6) + r^2(560R^2s^6 - s^8)) / \\ (6r^4 + 48r^3R - 20rRs^2 + s^4 + r^2(96R^2 - 5s^2))^2$$

$$|X_{238}X_{350}|^2: \\ (-3r^{14} - 88r^{13}R - 40rRs^{12} + s^{14} - 160r^{11}R(48R^2 + s^2) - 32r^3Rs^8(40R^2 + 3s^2) + \\ r^2s^{10}(496R^2 + 3s^2) - r^{12}(1104R^2 + 17s^2) + r^{10}(-32000R^4 + 304R^2s^2 - 39s^4) + \\ r^9(-79872R^5 + 8704R^3s^2 + 72Rs^4) + r^8(-110592R^6 + 38144R^4s^2 + 3168R^2s^4 - 45s^6) - \\ 256r^7(256R^7 - 256R^5s^2 - 51R^3s^4 - Rs^6) + \\ r^6(36864R^6s^2 + 20736R^4s^4 - 1568R^2s^6 - 25s^8) + \\ 8r^5(2304R^5s^4 - 1088R^3s^6 + 7Rs^8) + r^4(-9472R^4s^6 + 1264R^2s^8 - 3s^{10})) / \\ (3r^6 + 36r^5R + 28rRs^4 - s^6 + r^4(144R^2 + 5s^2) + 32r^3(6R^3 - Rs^2) + r^2(-208R^2s^2 + s^4))^2$$

$$|X_{239}X_{244}|^2: \quad (-7r^{10} - 176r^9R - 40rRs^8 + s^{10} - r^8(1696R^2 + 11s^2) - 8r^7(992R^3 - 29Rs^2) - \\ 2r^6(9088R^4 - 840R^2s^2 - 5s^4) - 8r^5(2048R^5 + 64R^3s^2 + 57Rs^4) + \\ r^4(-11264R^4s^2 + 3072R^2s^4 + 26s^6) - 8r^3(64R^3s^4 + 49Rs^6) + r^2(464R^2s^6 + 13s^8)) / \\ (-3r^4 + 30r^3R - 26rRs^2 + s^4 - 2r^2(-84R^2 + s^2))^2$$

$$\begin{aligned}
& |X_{239}X_{304}|^2: \\
& - \left(\left(4 \left(r^{14} + 28 r^{13} R + 36 r R s^{12} - s^{14} + 8 r^3 R s^8 \left(208 R^2 - 3 s^2 \right) + r^{12} \left(336 R^2 + s^2 \right) - \right. \right. \right. \\
& \quad r^2 s^{10} \left(420 R^2 + s^2 \right) + 8 r^{11} \left(280 R^3 - R s^2 \right) + r^{10} \left(8960 R^4 - 292 R^2 s^2 - 3 s^4 \right) + \\
& \quad 12 r^9 \left(1792 R^5 - 176 R^3 s^2 + 5 R s^4 \right) + r^8 \left(28672 R^6 - 6272 R^4 s^2 + 1024 R^2 s^4 - 3 s^6 \right) + \\
& \quad 32 r^7 \left(512 R^7 - 224 R^5 s^2 + 162 R^3 s^4 - 7 R s^6 \right) + \\
& \quad r^6 \left(-1024 R^6 s^2 + 11520 R^4 s^4 - 2040 R^2 s^6 + 3 s^8 \right) + \\
& \quad \left. \left. \left. 4 r^5 \left(2560 R^5 s^4 - 1296 R^3 s^6 + 33 R s^8 \right) + r^4 \left(-1664 R^4 s^6 + 752 R^2 s^8 + 3 s^{10} \right) \right) \right) \right) / \\
& \quad \left(3 r^6 + 36 r^5 R - 20 r R s^4 + s^6 + r^4 \left(144 R^2 - s^2 \right) + 16 r^3 R \left(12 R^2 + s^2 \right) + r^2 \left(80 R^2 s^2 - 3 s^4 \right) \right)^2 \\
& |X_{239}X_{306}|^2: \quad \frac{4 s^4 (5 r^2 - 16 r R + s^2) (-3 r^2 - 8 r R + s^2)^2}{(9 r^4 + 54 r^3 R - 18 r R s^2 + s^4 + r^2 (72 R^2 - 6 s^2))^2} \\
& |X_{239}X_{312}|^2: \\
& - \left(\left(4 \left(r^{10} + 20 r^9 R + 36 r R s^8 - s^{10} + 32 r^3 R s^4 \left(63 R^2 + s^2 \right) + r^8 \left(160 R^2 + 3 s^2 \right) + 32 r^7 \right. \right. \right. \\
& \quad \left(20 R^3 - R s^2 \right) + 2 r^6 \left(640 R^4 - 282 R^2 s^2 + s^4 \right) + 8 r^5 \left(128 R^5 - 276 R^3 s^2 + 9 R s^4 \right) - \\
& \quad 2 r^4 \left(1312 R^4 s^2 - 92 R^2 s^4 + s^6 \right) - r^2 \left(436 R^2 s^6 + 3 s^8 \right) \left. \right) \right) / \\
& \quad \left(-3 r^4 + 12 r^3 R - 20 r R s^2 + s^4 + r^2 \left(96 R^2 - 2 s^2 \right) \right)^2 \\
& |X_{239}X_{319}|^2: \\
& - \left(\left(4 \left(r^{10} + 20 r^9 R + 228 r R s^8 - 9 s^{10} + r^8 \left(160 R^2 + 19 s^2 \right) + 128 r^7 \left(5 R^3 + 2 R s^2 \right) + \right. \right. \right. \\
& \quad 2 r^6 \left(640 R^4 + 678 R^2 s^2 - 51 s^4 \right) + 8 r^5 \left(128 R^5 + 428 R^3 s^2 - 83 R s^4 \right) + 2 r^4 \\
& \quad \left(1760 R^4 s^2 - 244 R^2 s^4 + 59 s^6 \right) + 32 r^3 \left(67 R^3 s^4 + 3 R s^6 \right) - r^2 \left(1492 R^2 s^6 + 27 s^8 \right) \left. \right) \right) / \\
& \quad \left(3 r^4 + 24 r^3 R - 40 r R s^2 + 3 s^4 + 2 r^2 \left(24 R^2 - 5 s^2 \right) \right)^2 \\
& |X_{239}X_{320}|^2: \quad - \frac{4 (r^6 + 12 r^5 R + 12 r R s^4 - s^6 + r^4 (48 R^2 + 9 s^2) + 8 r^3 (8 R^3 + 3 R s^2) + r^2 (60 R^2 s^2 - 9 s^4))}{(-3 r^2 - 12 r R + s^2)^2} \\
& |X_{239}X_{321}|^2: \\
& - \left(\left(4 \left(r^{10} + 20 r^9 R + 928 r^3 R^3 s^4 + 28 r R s^8 - s^{10} + r^8 \left(160 R^2 + 3 s^2 \right) + 16 r^7 \left(40 R^3 - R s^2 \right) + \right. \right. \right. \\
& \quad 2 r^6 \left(640 R^4 - 186 R^2 s^2 + s^4 \right) + 32 r^5 \left(32 R^5 - 45 R^3 s^2 + 2 R s^4 \right) - \\
& \quad 2 r^4 \left(800 R^4 s^2 - 156 R^2 s^4 + s^6 \right) - r^2 \left(244 R^2 s^6 + 3 s^8 \right) \left. \right) \right) / \\
& \quad \left(3 r^4 + 6 r^3 R + 14 r R s^2 - s^4 + r^2 \left(-24 R^2 + 2 s^2 \right) \right)^2 \\
& |X_{239}X_{345}|^2: \\
& - \left(\left(4 \left(r^{10} + 20 r^9 R + 36 r R s^8 - s^{10} + r^8 \left(160 R^2 - 13 s^2 \right) + 32 r^7 \left(20 R^3 - 7 R s^2 \right) + 2 \right. \right. \right. \\
& \quad r^6 \left(640 R^4 - 666 R^2 s^2 - 35 s^4 \right) + 8 r^5 \left(128 R^5 - 404 R^3 s^2 + 15 R s^4 \right) + \\
& \quad r^4 \left(-2624 R^4 s^2 + 1528 R^2 s^4 + 14 s^6 \right) + 16 r^3 \left(126 R^3 s^4 - 11 R s^6 \right) + \\
& \quad \left. \left. \left. r^2 \left(-436 R^2 s^6 + 5 s^8 \right) \right) \right) \right) / \left(15 r^4 + 84 r^3 R - 20 r R s^2 + s^4 + r^2 \left(96 R^2 - 8 s^2 \right) \right)^2 \\
& |X_{239}X_{346}|^2: \quad - \left(\left(4 \left(r^{10} + 20 r^9 R + 36 r R s^8 - s^{10} + 5 r^8 \left(32 R^2 - s^2 \right) + \right. \right. \right. \\
& \quad 128 r^7 \left(5 R^3 - R s^2 \right) + 2 r^6 \left(640 R^4 - 474 R^2 s^2 - 7 s^4 \right) + 32 r^5 R \left(32 R^4 - 85 R^2 s^2 + s^4 \right) + \\
& \quad r^4 \left(-2624 R^4 s^2 + 856 R^2 s^4 + 10 s^6 \right) + 72 r^3 \left(28 R^3 s^4 - R s^6 \right) + r^2 \left(-436 R^2 s^6 + s^8 \right) \left. \right) \right) / \\
& \quad \left(6 r^4 + 48 r^3 R - 20 r R s^2 + s^4 + r^2 \left(96 R^2 - 5 s^2 \right) \right)^2
\end{aligned}$$

$$|X_{239}X_{350}|^2:$$

$$\begin{aligned} & - \left(4 \left(r^{14} + 28 r^{13} R + 44 r R s^{12} - s^{14} + r^{12} \left(336 R^2 + 5 s^2 \right) - r^2 s^{10} \left(644 R^2 + 5 s^2 \right) + 8 \right. \right. \\ & \quad \left. r^3 R s^8 \left(384 R^2 + 17 s^2 \right) + 8 r^{11} \left(280 R^3 + 9 R s^2 \right) + \right. \\ & \quad \left. r^4 s^6 \left(1920 R^4 - 928 R^2 s^2 - 9 s^4 \right) + r^{10} \left(8960 R^4 + 348 R^2 s^2 + 9 s^4 \right) + \right. \\ & \quad \left. 4 r^9 \left(5376 R^5 + 112 R^3 s^2 + 13 R s^4 \right) + r^8 \left(28672 R^6 - 1152 R^4 s^2 - 464 R^2 s^4 + 5 s^6 \right) + \right. \\ & \quad \left. 16 r^7 \left(1024 R^7 - 192 R^5 s^2 - 300 R^3 s^4 + 3 R s^6 \right) - r^6 \right. \\ & \quad \left. \left(1024 R^6 s^2 + 14336 R^4 s^4 - 264 R^2 s^6 + 5 s^8 \right) - 4 r^5 \left(3584 R^5 s^4 - 272 R^3 s^6 - 33 R s^8 \right) \right) / \\ & \quad \left(3 r^6 + 36 r^5 R + 28 r R s^4 - s^6 + r^4 \left(144 R^2 + 5 s^2 \right) + 32 r^3 \left(6 R^3 - R s^2 \right) + r^2 \left(-208 R^2 s^2 + s^4 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{304}|^2:$$

$$\begin{aligned} & \left(-3 r^{14} - 40 r^{13} R - 48 r R s^{12} + s^{14} - 8 r^3 R s^8 \left(840 R^2 - 13 s^2 \right) - r^2 s^{10} \left(-848 R^2 + s^2 \right) - \right. \\ & \quad r^{12} \left(96 R^2 + 5 s^2 \right) + 24 r^{11} \left(40 R^3 - R s^2 \right) + r^4 s^6 \left(24128 R^4 - 2464 R^2 s^2 - 7 s^4 \right) + \\ & \quad r^{10} \left(6400 R^4 - 752 R^2 s^2 + 5 s^4 \right) + 96 r^9 \left(128 R^5 - 56 R^3 s^2 - R s^4 \right) + \\ & \quad r^8 \left(-4032 R^4 s^2 + 1792 R^2 s^4 + 11 s^6 \right) - 16 r^7 \left(1024 R^7 - 2080 R^5 s^2 + 296 R^3 s^4 + 5 R s^6 \right) + \\ & \quad \left. r^6 \left(41984 R^6 s^2 - 45440 R^4 s^4 - 864 R^2 s^6 - s^8 \right) - 8 r^5 \left(5568 R^5 s^4 - 2496 R^3 s^6 - 23 R s^8 \right) \right) / \\ & \quad \left(r^6 - 6 r^5 R + 22 r R s^4 - s^6 + r^4 \left(-96 R^2 + s^2 \right) + 16 r^3 R \left(-14 R^2 + s^2 \right) - r^2 \left(96 R^2 s^2 + s^4 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{306}|^2:$$

$$\begin{aligned} & \left(-7 r^{10} - 148 r^9 R - 44 r R s^8 + s^{10} + 8 r^3 R s^4 \left(-512 R^2 + s^2 \right) - \right. \\ & \quad r^8 \left(1132 R^2 + 7 s^2 \right) - 40 r^7 \left(100 R^3 - 3 R s^2 \right) + r^6 \left(-6592 R^4 + 1628 R^2 s^2 + 6 s^4 \right) - \\ & \quad \left. 32 r^5 \left(128 R^5 - 201 R^3 s^2 + 6 R s^4 \right) + r^4 \left(7424 R^4 s^2 - 724 R^2 s^4 + 6 s^6 \right) + r^2 \left(676 R^2 s^6 + s^8 \right) \right) / \\ & \quad \left(-3 r^4 + 36 r^3 R - 20 r R s^2 + s^4 + r^2 \left(84 R^2 - 2 s^2 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{312}|^2:$$

$$\begin{aligned} & \left(-3 r^{10} + 24 r^9 R - 48 r R s^8 + s^{10} + r^8 \left(320 R^2 - 11 s^2 \right) + \right. \\ & \quad 8 r^3 R s^4 \left(-832 R^2 + s^2 \right) + r^7 \left(-960 R^3 + 152 R s^2 \right) - 2 r^6 \left(6528 R^4 + 664 R^2 s^2 + 7 s^4 \right) - \\ & \quad \left. 8 r^5 \left(3200 R^5 - 984 R^3 s^2 - 23 R s^4 \right) + r^4 \left(22080 R^4 s^2 - 800 R^2 s^4 - 6 s^6 \right) + r^2 \left(848 R^2 s^6 + s^8 \right) \right) / \\ & \quad \left(r^4 - 22 r^3 R - 22 r R s^2 + s^4 + 2 r^2 \left(56 R^2 + s^2 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{319}|^2:$$

$$\begin{aligned} & \left(-3 r^{10} - 16 r^9 R - 360 r R s^8 + 9 s^{10} + 2 r^6 \left(16 R^2 - 3 s^2 \right)^2 + \right. \\ & \quad r^8 \left(80 R^2 - 3 s^2 \right) + 8 r^7 \left(72 R^3 + 29 R s^2 \right) - 8 r^5 \left(128 R^5 + 384 R^3 s^2 + 93 R s^4 \right) + \\ & \quad \left. r^4 \left(-9152 R^4 s^2 + 5712 R^2 s^4 + 42 s^6 \right) - 24 r^3 \left(808 R^3 s^4 + 35 R s^6 \right) + r^2 \left(4704 R^2 s^6 + 33 s^8 \right) \right) / \\ & \quad \left(r^4 - 10 r^3 R + 46 r R s^2 - 3 s^4 - 2 r^2 \left(28 R^2 + s^2 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{320}|^2:$$

$$\begin{aligned} & \left(-27 r^{10} - 144 r^9 R - 40 r R s^8 + s^{10} + 15 r^8 \left(48 R^2 - 5 s^2 \right) + 72 r^7 \left(72 R^3 + 13 R s^2 \right) + \right. \\ & \quad r^6 \left(4608 R^4 - 4032 R^2 s^2 - 62 s^4 \right) - 8 r^5 \left(1152 R^5 + 384 R^3 s^2 - 43 R s^4 \right) + \\ & \quad \left. r^4 \left(-8640 R^4 s^2 + 2128 R^2 s^4 - 6 s^6 \right) - 24 r^3 \left(40 R^3 s^4 + 11 R s^6 \right) + r^2 \left(480 R^2 s^6 + 9 s^8 \right) \right) / \\ & \quad \left(-3 r^4 + 30 r^3 R - 26 r R s^2 + s^4 - 2 r^2 \left(-84 R^2 + s^2 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{321}|^2:$$

$$\begin{aligned} & \left(-3 r^{10} + 4 r^9 R - 4576 r^3 R^3 s^4 - 44 r R s^8 + s^{10} + r^8 \left(228 R^2 - 11 s^2 \right) + 96 r^7 R \left(3 R^2 + s^2 \right) - \right. \\ & \quad 2 r^6 \left(1888 R^4 + 450 R^2 s^2 + 7 s^4 \right) + r^5 \left(-9216 R^5 + 3904 R^3 s^2 + 136 R s^4 \right) + \\ & \quad \left. 2 r^4 \left(5664 R^4 s^2 - 218 R^2 s^4 - 3 s^6 \right) + r^2 \left(692 R^2 s^6 + s^8 \right) \right) / \\ & \quad \left(r^4 - 16 r^3 R - 16 r R s^2 + s^4 + 2 r^2 \left(14 R^2 + s^2 \right) \right)^2 \end{aligned}$$

$$|X_{244}X_{345}|^2:$$

$$\begin{aligned} & (-11 r^{10} - 392 r^9 R - 48 r R s^8 + s^{10} - r^8 (3904 R^2 + 7 s^2) - 8 r^7 (2104 R^3 - 27 R s^2) + \\ & r^6 (-33536 R^4 + 4464 R^2 s^2 + 14 s^4) - 8 r^5 (3200 R^5 - 2488 R^3 s^2 + 41 R s^4) + \\ & r^4 (22080 R^4 s^2 - 3008 R^2 s^4 + 6 s^6) - 8 r^3 (832 R^3 s^4 - 21 R s^6) + r^2 (848 R^2 s^6 - 3 s^8) \Big) / \\ & (-5 r^4 + 62 r^3 R - 22 r R s^2 + s^4 - 4 r^2 (-28 R^2 + s^2))^2 \end{aligned}$$

$$|X_{244}X_{346}|^2: \quad (-64 r^9 R - 48 r R s^8 + s^{10} + 4 r^8 (-292 R^2 + s^2) + 48 r^7 R (-164 R^2 + s^2) +$$

$$\begin{aligned} & r^6 (-23296 R^4 + 1248 R^2 s^2 + 5 s^4) - 8 r^5 (3200 R^5 - 1736 R^3 s^2 + 5 R s^4) + \\ & r^4 (22080 R^4 s^2 - 1904 R^2 s^4 - s^6) + r^3 (-6656 R^3 s^4 + 88 R s^6) + r^2 (848 R^2 s^6 - s^8) \Big) / \\ & (2 r^4 - 20 r^3 R + 22 r R s^2 - s^4 + r^2 (-112 R^2 + s^2))^2 \end{aligned}$$

$$|X_{244}X_{350}|^2:$$

$$\begin{aligned} & (-3 r^{14} - 40 r^{13} R - 48 r R s^{12} + s^{14} + 3 r^2 s^{10} (272 R^2 + s^2) - 8 r^3 R s^8 (696 R^2 + 7 s^2) - \\ & r^{12} (96 R^2 + 17 s^2) + 24 r^{11} (40 R^3 - R s^2) + r^{10} (6400 R^4 + 624 R^2 s^2 - 39 s^4) + \\ & r^4 s^6 (10816 R^4 - 224 R^2 s^2 - 3 s^4) + 128 r^9 (96 R^5 + 19 R^3 s^2 + 2 R s^4) + \\ & r^8 (3648 R^4 s^2 - 320 R^2 s^4 - 45 s^6) - 16 r^7 (1024 R^7 + 96 R^5 s^2 + 384 R^3 s^4 - 29 R s^6) - \\ & r^6 (23552 R^6 s^2 - 9088 R^4 s^4 + 2080 R^2 s^6 + 25 s^8) + 8 r^5 (1088 R^5 s^4 + 656 R^3 s^6 + 27 R s^8) \Big) / \\ & (r^6 - 6 r^5 R - 30 r R s^4 + s^6 + r^4 (-96 R^2 + 3 s^2) - 4 r^3 (56 R^3 + 9 R s^2) + 3 r^2 (80 R^2 s^2 + s^4))^2 \end{aligned}$$

$$|X_{304}X_{306}|^2:$$

$$\begin{aligned} & - \Big((4 r^4 (r^{10} + 24 r^9 R - 144 R^4 s^6 + 44 R^2 s^8 - 3 s^{10} + r^8 (244 R^2 - 3 s^2) + 16 r^7 (85 R^3 - 6 R s^2) + \\ & r^6 (4480 R^4 - 968 R^2 s^2 - 2 s^4) + 16 r^5 (544 R^5 - 283 R^3 s^2 + 9 R s^4) + 2 r^4 (4608 R^6 - \\ & 5448 R^4 s^2 + 656 R^2 s^4 + 3 s^6) + 16 r^3 (256 R^7 - 824 R^5 s^2 + 263 R^3 s^4 - 10 R s^6) + \\ & r^2 (-6400 R^6 s^2 + 5664 R^4 s^4 - 760 R^2 s^6 + s^8) + 8 r (336 R^5 s^4 - 130 R^3 s^6 + 11 R s^8) \Big) \Big) / \\ & (3 r^6 + 30 r^5 R - 14 r R s^4 + s^6 + r^4 (96 R^2 - s^2) + 16 r^3 R (6 R^2 + s^2) + r^2 (32 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

$$|X_{304}X_{312}|^2: \quad - \Big((64 r^4 R^2 (r^8 + 20 r^7 R - 4 R^2 s^6 + r^6 (160 R^2 - s^2) + 16 r^5 (40 R^3 - 3 R s^2) +$$

$$\begin{aligned} & r^4 (1280 R^4 - 372 R^2 s^2 - 5 s^4) + 4 r^3 (256 R^5 - 232 R^3 s^2 + 13 R s^4) - \\ & 3 r^2 (192 R^4 s^2 - 56 R^2 s^4 + s^6) + r (96 R^3 s^4 - 8 R s^6) \Big) / \\ & (r^6 + 16 r R s^4 - s^6 + r^4 (-48 R^2 + s^2) - 16 r^3 (8 R^3 - R s^2) - r^2 (48 R^2 s^2 + s^4))^2 \end{aligned}$$

$$|X_{304}X_{319}|^2:$$

$$\begin{aligned} & - \frac{64 r^2 R s^4 (6 r^7 + 87 r^6 R + 2 r s^6 - R s^6 + 2 r^5 (236 R^2 - 9 s^2) + r^4 (1136 R^3 - 123 R s^2) + 2 r^3 (512 R^4 - 84 R^2 s^2 + 5 s^4) + r^2 (192 R^3 s^2 - 35 R s^4))}{(r^6 + 12 r^5 R - 28 r R s^4 + 3 s^6 + r^4 (48 R^2 - 3 s^2) + 16 r^3 (4 R^3 - R s^2) - r^2 (16 R^2 s^2 + s^4))^2} \end{aligned}$$

$$|X_{304}X_{320}|^2:$$

$$\begin{aligned} & - \Big((64 r^2 R s^4 (10 r^7 + 127 r^6 R - R s^6 + 2 r^5 (300 R^2 - 7 s^2) + r^4 (1264 R^3 - 123 R s^2) + \\ & 2 r^3 (512 R^4 - 228 R^2 s^2 + 3 s^4) + r^2 (-320 R^3 s^2 + 53 R s^4) + r (32 R^2 s^4 - 2 s^6) \Big) \Big) / \\ & (3 r^6 + 36 r^5 R - 20 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 16 r^3 R (12 R^2 + s^2) + r^2 (80 R^2 s^2 - 3 s^4))^2 \end{aligned}$$

$$|X_{304}X_{321}|^2:$$

$$\begin{aligned} & - \Big((16 r^2 R^2 (r^{10} + 20 r^9 R + 12 r R s^8 - s^{10} + r^8 (160 R^2 - s^2) + 16 r^7 (40 R^3 - 3 R s^2) + \\ & 2 r^6 (640 R^4 - 186 R^2 s^2 - 5 s^4) + 16 r^5 (64 R^5 - 58 R^3 s^2 - R s^4) - \\ & 2 r^4 (288 R^4 s^2 + 44 R^2 s^4 + 7 s^6) - 32 r^3 (5 R^3 s^4 - R s^6) + r^2 (76 R^2 s^6 - 7 s^8) \Big) \Big) / \\ & (r^6 + 6 r^5 R + r^4 s^2 - r^2 s^4 + 10 r R s^4 - s^6 + 16 r^3 R (-2 R^2 + s^2))^2 \end{aligned}$$

$$|X_{304}X_{345}|^2:$$

$$\begin{aligned} & - \left(\left(16 r^4 \left(r^{10} + 24 r^9 R + r^8 (244 R^2 - s^2) - s^6 (-4 R^2 + s^2)^2 + 4 r^7 (340 R^3 - 13 R s^2) + \right. \right. \right. \\ & \quad r^6 (4480 R^4 - 568 R^2 s^2 - 2 s^4) + 4 r^5 (2176 R^5 - 652 R^3 s^2 + 23 R s^4) + 2 r^4 (4608 R^6 - \\ & \quad 2888 R^4 s^2 + 350 R^2 s^4 + s^6) + 4 r^3 (1024 R^7 - 1504 R^5 s^2 + 428 R^3 s^4 - 23 R s^6) + \\ & \quad \left. \left. r^2 (-2304 R^6 s^2 + 1568 R^4 s^4 - 256 R^2 s^6 + s^8) + 4 r (96 R^5 s^4 - 52 R^3 s^6 + 7 R s^8) \right) \right) / \\ & \quad \left(5 r^6 + 48 r^5 R - 16 r R s^4 + s^6 + r^4 (144 R^2 - s^2) + 32 r^3 R (4 R^2 + s^2) + r^2 (48 R^2 s^2 - 5 s^4) \right)^2 \end{aligned}$$

$$|X_{304}X_{346}|^2:$$

$$\begin{aligned} & - \left(\left(4 r^4 \left(r^{10} + 28 r^9 R + r^8 (336 R^2 - s^2) - s^6 (-8 R^2 + s^2)^2 + 56 r^7 (40 R^3 - R s^2) + r^6 \right. \right. \right. \\ & \quad (8960 R^4 - 772 R^2 s^2 - 2 s^4) + 16 r^5 (1344 R^5 - 292 R^3 s^2 + 5 R s^4) + 2 r^4 (14336 R^6 - \\ & \quad 6976 R^4 s^2 + 484 R^2 s^4 + s^6) + 8 r^3 (2048 R^7 - 2432 R^5 s^2 + 436 R^3 s^4 - 11 R s^6) + \\ & \quad \left. \left. r^2 (-9216 R^6 s^2 + 4480 R^4 s^4 - 452 R^2 s^6 + s^8) + 12 r (128 R^5 s^4 - 40 R^3 s^6 + 3 R s^8) \right) \right) / \\ & \quad \left(2 r^6 + 24 r^5 R - 16 r R s^4 + s^6 + r^4 (96 R^2 - s^2) + 8 r^3 R (16 R^2 + s^2) + r^2 (48 R^2 s^2 - 2 s^4) \right)^2 \end{aligned}$$

$$|X_{304}X_{350}|^2:$$

$$\begin{aligned} & - \left(\left(64 r^2 R^2 s^4 (3 r^{10} + 64 r^9 R + 32 r R s^8 - s^{10} + r^8 (544 R^2 - 13 s^2) + 16 r^7 (144 R^3 - 23 R s^2) + \right. \right. \\ & \quad r^6 (4864 R^4 - 2592 R^2 s^2 - 26 s^4) + 64 r^5 (64 R^5 - 100 R^3 s^2 + 7 R s^4) - 2 r^4 \\ & \quad (2176 R^4 s^2 - 1040 R^2 s^4 + s^6) + 16 r^3 (112 R^3 s^4 - 15 R s^6) + r^2 (-352 R^2 s^6 + 7 s^8) \left. \right) / \\ & \quad \left(r^8 + 16 r^7 R + 24 r R s^6 - s^8 + 8 r^5 R (32 R^2 + s^2) + 2 r^6 (48 R^2 + s^2) + \right. \\ & \quad \left. 32 r^4 (8 R^4 - R^2 s^2) - 16 r^3 (8 R^3 s^2 - R s^4) - 2 r^2 (64 R^2 s^4 + s^6) \right)^2 \end{aligned}$$

$$|X_{306}X_{312}|^2:$$

$$- \frac{4 r^4 (r^6 + 16 r^5 R - 16 R^4 s^2 + 12 R^2 s^4 - 3 s^6 + r^4 (100 R^2 - s^2) + 16 r^3 (19 R^3 - 3 R s^2) + r^2 (448 R^4 - 208 R^2 s^2 - 5 s^4) + 16 r (16 R^5 - 15 R^3 s^2 + 4 R s^4))}{(-3 r^4 + 18 r^3 R - 14 r R s^2 + s^4 + r^2 (48 R^2 - 2 s^2))^2}$$

$$|X_{306}X_{319}|^2:$$

$$\begin{aligned} & - \left(\left(4 r^2 (r^8 + 16 r^7 R - 16 R^2 s^6 + 5 r^6 (20 R^2 + 3 s^2) + 16 r^5 (19 R^3 + 8 R s^2) + r^4 (448 R^4 + \right. \right. \\ & \quad 464 R^2 s^2 - 53 s^4) + 16 r^3 (16 R^5 + 49 R^3 s^2 - 6 R s^4) + r^2 (496 R^4 s^2 + 124 R^2 s^4 - 3 s^6) + \\ & \quad \left. \left. 16 r (14 R^3 s^4 - R s^6) \right) \right) / (3 r^4 + 18 r^3 R - 22 r R s^2 + 3 s^4 + 2 r^2 (12 R^2 - 5 s^2))^2 \end{aligned}$$

$$|X_{306}X_{320}|^2:$$

$$\begin{aligned} & - \left(\left(4 r^2 (9 r^8 + 144 r^7 R + 2736 r^5 R^3 - 16 R^2 s^6 + r^6 (900 R^2 + 39 s^2) + r^4 (4032 R^4 - 816 R^2 s^2 - \right. \right. \\ & \quad 29 s^4) + 16 r^3 (144 R^5 - 135 R^3 s^2 + 2 R s^4) + r^2 (-1680 R^4 s^2 + 284 R^2 s^4 + 5 s^6) + \\ & \quad \left. \left. 16 r (22 R^3 s^4 - R s^6) \right) \right) / (9 r^4 + 54 r^3 R - 18 r R s^2 + s^4 + r^2 (72 R^2 - 6 s^2))^2 \end{aligned}$$

$$|X_{306}X_{321}|^2:$$

$$\begin{aligned} & - \left(\left(4 r^2 (r^8 + 16 r^7 R - 4 R^2 s^6 + r^6 (100 R^2 - s^2) + 8 r^5 (38 R^3 - 7 R s^2) + r^4 (448 R^4 - 288 R^2 s^2 - \right. \right. \\ & \quad 5 s^4) + 16 r^3 (16 R^5 - 31 R^3 s^2 + 3 R s^4) + r^2 (-272 R^4 s^2 + 136 R^2 s^4 - 3 s^6) + \\ & \quad \left. \left. r (80 R^3 s^4 - 8 R s^6) \right) \right) / (3 r^4 + 8 r^3 R - 14 r R s^2 + s^4 + 2 r^2 (-6 R^2 + s^2))^2 \end{aligned}$$

$$|X_{306}X_{345}|^2:$$

$$- \frac{4 r^4 (r^6 + 16 r^5 R - 16 R^4 s^2 - 4 R^2 s^4 + s^6 + r^4 (100 R^2 + 7 s^2) + 16 r^3 (19 R^3 + 2 R s^2) + r^2 (448 R^4 + 48 R^2 s^2 - 9 s^4) + 16 r (16 R^5 + R^3 s^2 - R s^4))}{(15 r^4 + 54 r^3 R - 14 r R s^2 + s^4 + 8 r^2 (6 R^2 - s^2))^2}$$

$$|X_{306}X_{346}|^2:$$

$$- \frac{4 r^4 (r^6 + 16 r^5 R + 4 R^2 s^2 (-4 R^2 + s^2) + r^4 (100 R^2 + 3 s^2) + 8 r^3 (38 R^3 - R s^2) + r^2 (448 R^4 - 80 R^2 s^2 - 2 s^4) + 8 r R (32 R^4 - 14 R^2 s^2 + s^4))}{(6 r^4 + 36 r^3 R - 14 r R s^2 + s^4 + r^2 (48 R^2 - 5 s^2))^2}$$

$$\begin{aligned}
& |X_{306}X_{350}|^2: \\
& - \left((4r^2 (r^{12} + 24r^{11}R - 16R^2s^{10} + 16rRs^8 (22R^2 + s^2) + r^{10} (244R^2 + s^2) + 16r^9 \right. \\
& \quad (85R^3 - 2Rs^2) + r^8 (4480R^4 - 568R^2s^2 - 6s^4) - \\
& \quad r^2s^6 (1808R^4 + 324R^2s^2 + 3s^4) + 16r^7 (544R^5 - 207R^3s^2 - 6Rs^4) + \\
& \quad 2r^6 (4608R^6 - 4552R^4s^2 - 152R^2s^4 - 7s^6) + 16r^5R (256R^6 - 760R^4s^2 + 45R^2s^4 + s^6) + \\
& \quad r^4 (-6400R^6s^2 + 4320R^4s^4 + 456R^2s^6 - 11s^8) + 8r^3 (592R^5s^4 + 14R^3s^6 + 9Rs^8) \Big) \Big/ \\
& \quad \left(3r^6 + 30r^5R + 22rRs^4 - s^6 + r^4 (96R^2 + 5s^2) + r^3 (96R^3 - 44Rs^2) + r^2 (-112R^2s^2 + s^4) \right)^2 \\
& |X_{312}X_{319}|^2: \\
& - \frac{64r^2R (r^6R - Rs^6 + 2r^5 (6R^2 - s^2) + r^4 (48R^3 - 7Rs^2) + 8r^3 (8R^4 - R^2s^2 + s^4) + r^2 (60R^3s^2 - 37Rs^4) + 2r (6R^2s^4 + s^6))}{(r^4 - 4r^3R + 28rRs^2 - 3s^4 - 2r^2 (16R^2 + s^2))^2} \\
& |X_{312}X_{320}|^2: \\
& - \frac{64r^2R (9r^6R - Rs^6 + 6r^5 (18R^2 - s^2) + 3r^4 (144R^3 - 5Rs^2) + 24r^3 (24R^4 - 11R^2s^2) + r^2 (-228R^3s^2 + 43Rs^4) + r (28R^2s^4 - 2s^6))}{(-3r^4 + 12r^3R - 20rRs^2 + s^4 + r^2 (96R^2 - 2s^2))^2} \\
& |X_{312}X_{321}|^2: \\
& - \frac{16r^2R^2 (r^6 + 12r^5R + 20rRs^4 - s^6 + r^4 (48R^2 + s^2) + 8r^3 (8R^3 - 5Rs^2) - r^2 (68R^2s^2 + s^4))}{(r^4 - 10r^3R - 10rRs^2 + s^4 + 2r^2 (8R^2 + s^2))^2} \\
& |X_{312}X_{345}|^2: \\
& - \frac{16r^4 (r^6 + 12r^5R + 20rRs^4 - s^6 + r^4 (48R^2 + s^2) + 8r^3 (8R^3 - 5Rs^2) - r^2 (68R^2s^2 + s^4))}{(-5r^4 + 32r^3R - 16rRs^2 + s^4 + r^2 (64R^2 - 4s^2))^2} \\
& |X_{312}X_{346}|^2: \\
& - \frac{4r^4 (r^6 + 12r^5R + 20rRs^4 - s^6 + r^4 (48R^2 + s^2) + 8r^3 (8R^3 - 5Rs^2) - r^2 (68R^2s^2 + s^4))}{(2r^4 - 8r^3R + 16rRs^2 - s^4 + r^2 (-64R^2 + s^2))^2} \\
& |X_{312}X_{350}|^2: \\
& - \frac{64r^2R^2 (r^2 + 4rRs^2)^2 (r^6 + 12r^5R + 20rRs^4 - s^6 + r^4 (48R^2 + s^2) + 8r^3 (8R^3 - 5Rs^2) - r^2 (68R^2s^2 + s^4))}{(r^6 - 24rRs^4 + s^6 + r^4 (-48R^2 + 3s^2) - 8r^3 (16R^3 + 3Rs^2) + 3r^2 (48R^2s^2 + s^4))^2} \\
& |X_{319}X_{320}|^2: \\
& - \frac{1024r^2Rs^4 (r^3 + 8r^2R + 16rR^2 - r^2 - Rs^2)}{(3r^4 + 24r^3R - 40rRs^2 + 3s^4 + 2r^2 (24R^2 - 5s^2))^2} \\
& |X_{319}X_{321}|^2: \\
& - \frac{16r^2R (r^6R - Rs^6 + 4r^5 (3R^2 - s^2) + r^4 (48R^3 - 31Rs^2) + 8r^3 (8R^4 - 13R^2s^2 + 3s^4) + r^2 (-68R^3s^2 + 47Rs^4) + 4r (5R^2s^4 - s^6))}{(r^4 + 2r^3R + 10rRs^2 - 3s^4 - 2r^2 (4R^2 + s^2))^2} \\
& |X_{319}X_{345}|^2: \\
& - \left((16r^2 (r^8 + 16r^7R - 4R^2s^6 + r^6 (100R^2 + 13s^2) + 4r^5 (76R^3 + 25Rs^2) + r^4 (448R^4 + \right. \\
& \quad 320R^2s^2 - 49s^4) + 8r^3 (32R^5 + 58R^3s^2 - 11Rs^4) + 3r^2 (80R^4s^2 + 4R^2s^4 + s^6) + \\
& \quad r (48R^3s^4 - 4Rs^6) \Big) \Big/ (5r^4 + 28r^3R - 28rRs^2 + 3s^4 + 16r^2 (2R^2 - s^2))^2 \\
& |X_{319}X_{346}|^2: \\
& - \left((4r^2 (r^8 + 20r^7R - 16R^2s^6 + 8rRs^4 (24R^2 + s^2) + r^6 (160R^2 + 9s^2) + 32r^5 (20R^3 + 3Rs^2) + \right. \\
& \quad r^4 (1280R^4 + 396R^2s^2 - 41s^4) + 4r^3 (256R^5 + 216R^3s^2 - 61Rs^4) + \\
& \quad r^2 (960R^4s^2 - 272R^2s^4 + 15s^6) \Big) \Big/ \\
& \quad \left(2r^4 + 16r^3R - 28rRs^2 + 3s^4 + r^2 (32R^2 - 7s^2) \right)^2 \\
& |X_{319}X_{350}|^2: \\
& - \frac{256r^2Rs^4 (r^6R - 4Rs^6 + 2r^5 (6R^2 + s^2) + r^4 (48R^3 + 22Rs^2) + 4r^3 (16R^4 - R^2s^2 + s^4) - r^2 (132R^3s^2 + 47Rs^4) + 2r (36R^2s^4 + s^6))}{(r^6 + 12r^5R + 52rRs^4 - 3s^6 + r^4 (48R^2 - s^2) + 32r^3 (2R^3 - Rs^2) - r^2 (112R^2s^2 + 5s^4))^2} \\
& |X_{320}X_{321}|^2: \\
& - \frac{16r^2R (9r^6R - 9Rs^6 + 12r^5 (9R^2 - s^2) + r^4 (432R^3 - 87Rs^2) + 8r^3 (72R^4 - 69R^2s^2 + s^4) + r^2 (-612R^3s^2 + 167Rs^4) + 12r (15R^2s^4 - s^6))}{(3r^4 + 6r^3R + 14rRs^2 - s^4 + r^2 (-24R^2 + 2s^2))^2}
\end{aligned}$$

$$|X_{320}X_{345}|^2:$$

$$- \left((16 r^2 (9 r^8 + 144 r^7 R - 4 R^2 s^6 + 45 r^6 (20 R^2 + s^2) + 12 r^5 (228 R^3 + 7 R s^2) + r^4 (4032 R^4 - 384 R^2 s^2 - 25 s^4) + 3 r^2 s^2 (-304 R^4 + 36 R^2 s^2 + s^4) + 8 r^3 (288 R^5 - 150 R^3 s^2 - R s^4) + 4 r (28 R^3 s^4 - R s^6)) / (15 r^4 + 84 r^3 R - 20 r R s^2 + s^4 + r^2 (96 R^2 - 8 s^2))^2 \right)$$

$$|X_{320}X_{346}|^2:$$

$$- \left((4 r^2 (9 r^8 + 180 r^7 R - 16 R^2 s^6 + 96 r^5 R (60 R^2 + s^2) + 3 r^6 (480 R^2 + 11 s^2) + 3 r^4 (3840 R^4 - 348 R^2 s^2 - 11 s^4) + 4 r^3 (2304 R^5 - 1128 R^3 s^2 - 5 R s^4) + r^2 (-3648 R^4 s^2 + 560 R^2 s^4 + 7 s^6) + 8 r (56 R^3 s^4 - 3 R s^6)) / (6 r^4 + 48 r^3 R - 20 r R s^2 + s^4 + r^2 (96 R^2 - 5 s^2))^2 \right)$$

$$|X_{320}X_{350}|^2:$$

$$\frac{256 r^4 R s^4 (2 r^5 + 23 r^4 R + 4 R^3 s^2 - R s^4 + 4 r^3 (21 R^2 + s^2) + r^2 (80 R^3 - 42 R s^2) + 2 r (-32 R^4 + 6 R^2 s^2 + s^4))}{(3 r^6 + 36 r^5 R + 28 r R s^4 - s^6 + r^4 (144 R^2 + 5 s^2) + 32 r^3 (6 R^3 - R s^2) + r^2 (-208 R^2 s^2 + s^4))^2}$$

$$|X_{321}X_{345}|^2:$$

$$- \frac{16 r^2 (r+R)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(-5 r^4 + 2 r^3 R - 10 r R s^2 + s^4 - 4 r^2 (-4 R^2 + s^2))^2}$$

$$|X_{321}X_{346}|^2:$$

$$- \frac{4 r^2 (r+2 R)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(2 r^4 + 4 r^3 R + 10 r R s^2 - s^4 + r^2 (-16 R^2 + s^2))^2}$$

$$|X_{321}X_{350}|^2:$$

$$- \frac{16 r^2 R^2 (r^2 + 4 r R - 3 s^2)^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(r^6 + 6 r^5 R + 3 r^4 s^2 - 18 r R s^4 + s^6 - 4 r^3 (8 R^3 + 3 R s^2) + 3 r^2 (16 R^2 s^2 + s^4))^2}$$

$$|X_{345}X_{346}|^2:$$

$$- \frac{4 r^4 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(10 r^4 + 56 r^3 R - 16 r R s^2 + s^4 + r^2 (64 R^2 - 7 s^2))^2}$$

$$|X_{345}X_{350}|^2:$$

$$- \frac{16 r^2 (r^3 + 6 r^2 R - 2 R s^2 + r (8 R^2 + s^2))^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(5 r^6 + 48 r^5 R + 24 r R s^4 - s^6 + 3 r^2 s^2 (-48 R^2 + s^2) + 9 r^4 (16 R^2 + s^2) + 8 r^3 (16 R^3 - 9 R s^2))^2}$$

$$|X_{346}X_{350}|^2:$$

$$- \frac{4 r^2 (r^3 + 8 r^2 R - 4 R s^2 + r (16 R^2 + s^2))^2 (r^6 + 12 r^5 R + 20 r R s^4 - s^6 + r^4 (48 R^2 + s^2) + 8 r^3 (8 R^3 - 5 R s^2) - r^2 (68 R^2 s^2 + s^4))}{(2 r^6 + 24 r^5 R - 144 r^2 R^2 s^2 + 24 r R s^4 - s^6 + 3 r^4 (32 R^2 + s^2) + 8 r^3 (16 R^3 - 3 R s^2))^2}$$